



# County Palatine of Chester.

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## REPORT

OF THE

## *Medical Officer of Health*

FOR THE YEAR 1895.

WITH STATISTICAL INFORMATION AND  
SUMMARY OF REPORTS OF DISTRICT  
MEDICAL OFFICERS OF HEALTH.

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PRESENTED TO THE  
PUBLIC HEALTH COMMITTEE  
OF THE COUNTY COUNCIL,

July 17th, 1896.

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CHESTER:

PHILLIPSON & GOLDER, PRINTERS, EASTGATE ROW & FOREGATE STREET,



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# Report of the Medical Officer of Health

For the Year ending December 31st, 1895.

**Area and Population.**—The Geographical County of Chester has an area of 657,068 acres, and the population at the taking of the Census in 1891 was 730,058, *i.e.*, just over one (1.11) person to an acre.

The differences between the area and Census population of the Geographical County and those of the Administrative County, together with the County Boroughs of Birkenhead, Chester, and Stockport are shown as follows:—

		Area in Acres.	Population Census, 1891
Geographical County	...     ...     ...	657068	730058
Add			
Part of Stockport County Borough in the Geographical County of Lancaster	...     ...     ...	480	16368
Part of Stalybridge Urban Sanitary District in the Geographical County of Lancaster	...	658	7278
		658233	753704
Deduct			
Part of Mossley Urban Sanitary District in the Administrative County of Lancaster	...     ..	2702	2887
Part of New Mills Urban Sanitary District in the Administrative County of Derby	...     ...	127	1163
Part of Warrington Urban Sanitary District in the Administrative County of Lancaster	...	368	5785
Administrative County and 3 County Boroughs	...     ...     ...     ...	655036	743869

From the area and population thus obtained must be deducted the area and population of the 3 County Boroughs,

and the result will be the area and population of the Administrative County. This is done below.

	Area in Acres.	Population, Census, 1891.
Administrative County and 3 County Boroughs ...	655036	743869
Deduct		
County Borough of Birken- head ... ...	3849	99857
County Borough of Chester...	2960	37105
County Borough of Stockport	2200	70263
Administrative County .	646027	536644

The Census population of the Administrative County was thus less than one (0.83) person to an acre.

The Registration County has an area of 643,791 acres and a Census population of 707,978, its boundaries differing from those of the Geographical County as well as those of the Administrative County and 3 County Boroughs. The Registration County is indeed simply a group of 10 Registration Districts, generally co-extensive with Poor Law Unions, and covering nearly the same area as the Geographical County, but less in extent by 13,277 acres.

These 10 Registration Districts suggest a convenient way of subdividing the Administrative County. There is, however, no advantage in making two districts out of the Hundred of Wirral. With this exception the Registration Districts may be adopted, and all that requires to be done is to make them co-extensive with Urban and Rural Districts (or parts thereof) in the County. The 9 Districts thus formed naturally fall into 3 groups—Wirral, Chester and Runcorn being the 3 Western Districts; Buckley, Northwich and Nantwich the 3 Central Districts; and Stockport, Macclesfield and Congleton the 3 Eastern Districts.

The Urban and Rural Districts in each of the 9 Sub-divisions of the County are as follows:—

No.	Snb-divisions of County.	Urban Districts.	Rural Districts.
1	Wirral ...	Wallasey, Higher and Lower Bebington, Bromborough, Hoylake and West Kirby, Neston and Parkgate.	Wirral
2	Chester ..	Hoole, Tarporley.	Chester, Tarvin, Malpas, part of Wrexham.
3	Runcorn ...	Runcorn.	Runcorn.
4	Bucklow ...	Altrincham, Ashton-upon-Mersey, Bowdon, Knutsford, Lymn, Sale, Wilmslow.	Bucklow.
5	Northwich ...	Northwich, Middlewich, Winsford.	Northwich.
6	Nantwich ...	Crewe, Nantwich, Alsager.	Nantwich, part of Drayton.
7	Stockport ...	Hyde, Stalybridge, Dukinfield, Bredbury and Romiley, Cheadle and Gatley, Hollingworth, Marple, Mottram.	Stockport, Tinttwistle.
8	Macclesfield ...	Macclesfield, Alderley Edge, Bollington, Yeardsley-cum-Whaley.	Macclesfield, Disley.
9	Congleton ...	Congleton, Buglawton, Sandbach	Congleton.

Two of the Urban Districts in the above list were only constituted in the spring of 1895—Ashton-upon-Mersey and Knutsford—both having previously formed part of the Bucklow Rural District. For convenience they are treated as if they had been separate Districts since the beginning of the year 1895. The changes affecting part of Wrexham and part of Drayton did not take effect till after the end of the third quarter. These parts of Rural Districts have, therefore, for convenience, been treated as if they had remained unchanged till the end of 1895.

The areas of the Sub-divisions of the Administrative County, the Census population, and persons per acre are as follows:—

Sub-divisions of County.	Area in Acres.	Population Census, 1891.	Persons per Acre.
Western Sub-divisions—			
Wirral	50664	70357	1.38
Chester	120087	34605	0.28
Runcorn	50499	44711	0.88
Central Sub-divisions—			
Bucklow	75303	65460	0.86
Northwich	62564	50278	0.80
Nantwich	101935	63132	0.61
Eastern Sub-divisions—			
Stockport	45933	112678	2.45
Macclesfield	88469	63016	0.71
Congleton	50573	32367	0.64

This differs from the tabular statement as regards Sub-divisions presented in the Annual Report for 1892, as the four Townships of Tiverton, Tilstone Fearnall, Beeston, and Burwardsley were in that year taken from the Nantwich Rural Sanitary District and added to the Tarvin Rural Sanitary District. Thus 5617 acres and 1401 population have been transferred from the Nantwich Sub-division to the Chester Sub-division.

The number of Urban Districts in the Administrative County is thus 37—5 Municipal Boroughs and 32 other Urban Districts. There are 15 Rural Districts wholly or in part within the Administrative County. The area and Census population of the 5 Municipal Boroughs taken together, of the other Urban Districts, and of the Rural Districts are as follows:—

	Area in Acres.	Population at Census.
5 Municipal Boroughs	14189	136969
32 other Urban Districts	72528	219179
15 Rural Districts or parts of Rural Districts	559310	180476

This differs from the corresponding tabular statement presented in the Annual Report for 1892, as parts of Coppenhall Church, Shavington-cum-Gresty, and Wistaston were, from November, 1892, taken from the Nantwich Rural District and added to the Borough of Crewe, transferring 857 acres and 4022 population from the Rural Districts to the Municipal Boroughs.

The area (2241 acres) and Census population (1912) of Alsager, the area (1622 acres) and Census population (4234) of Ashton-upon-Mersey, the area (1760 acres) and Census population (4643) of Knutsford, the area (843 acres) and Census population (295) of the land added to Middlewich, and the area (61 acres) added to Bromborough, have also been transferred from the Rural Districts to the Urban Districts.

The Census was taken in the first week of April, 1891, and for the Annual Report of 1895 an estimate is required of the population at midsummer, 1895. This estimate has been made for each District by the District Medical Officer of Health. The increase during the 4 years and 3 months is set down at 26,602. Thus, in the middle of the year 1895, the population was 563,246. It was thus distributed:—

5 Municipal Boroughs	...	...	...	...	143,191
32 other Urban Districts	...	...	...	...	236,839
15 Rural Districts or parts of Rural Districts..					183,216

The estimated increase is not excessive, being at the rate of 11.5 per cent. on the decennium. The actual increase of population in the area representing the Administrative County in the ten years 1881-91 was at the rate of 12.5 per cent. It will be noticed, on referring to Table I. in the Appendix, that several Districts, as the Boroughs of Macclesfield and Congleton, are not estimated as having increased. Both these Boroughs decreased in population during the ten years 1881-91. The population of the town of Runcorn is estimated to be 1550 less than at the date of the Census. Again it will be observed that there has been a considerable falling off in the population of the Rural Districts of Chester and Wirral since the Census. This is owing to 1137 persons employed in making the Manchester Ship Canal in the Chester Rural District and 2432 persons similarly employed in the Wirral Rural District having left the County since the completion of the Canal.

The great difference in the density of population in the Sub-divisions of the County has already been noted. In the various districts it is yet more marked. Thus in Altrincham Urban District there are upwards of 19 persons to an acre, in Crewe upwards of 16 persons to an acre, in Runcorn upwards of 15 persons to an acre, whilst in two Urban Districts, Buglawton and Tarporley, there are more than two acres to a person. In some Rural Districts there are 4 or 5 acres to a person. The persons to an acre in the 3 groups of Districts, in 1895, were:—

5 Municipal Boroughs	...	...	10.09	persons
32 other Urban Districts	...	...	3.26	„
15 Rural Districts or parts of Rural Districts	...	...	0.32	„

This is a matter of interest, as, other things being equal, the insalubrity of a place may be expected to increase with the density of population.

**Births.**—The number of Births registered in the Administrative County in 1895, was 16,058. The birth-rate was therefore 28.5. The birth-rates per 1,000 living were in some few districts high, and in many very low. At Neston and Parkgate the birth-rate was upwards of 42 per 1,000, and at Northwich 40 per 1,000, whereas at Bowdon it was only 14 per 1,000. The birth-rate in the Municipal Boroughs was 29.1, in the other Urban Districts 29.6, and in the Rural Districts 26.5. In the whole of England and Wales the birth-rate for 1895 was 30.3, which, although higher than the low rates in 1890 and 1894, is lower than any other rate on record, and 0.9 below the average rate in the ten years 1885-94. The birth-rate in the 33 great towns in England and Wales (representing in the aggregate a population of 10,591,530) was 31.3.

**Deaths.**—The number of deaths registered in the Administrative County in 1895, was 10,057. The natural increase of population (excess of births over deaths) was therefore 6,001, *i.e.*, 2,034 less than the estimated increase for 1895. The death-rate for the Administrative County was 17.8. There is a considerable difference in the death-rates of different districts. They range from 26 at Neston and Parkgate, 23.9 at Stalybridge, and 23.2 at Hyde to 9.7 at Alderley Edge, and 9.1 at Higher Bebington. The death-rate in the Municipal Boroughs was 21.5, in the other Urban Districts 17.2, and in the Rural Districts 15.7. In the whole of England and Wales the death-rate for 1895 was 18.7, which shows an increase of 2.1 on the low rate in the previous year, but is 0.2 below the average of the ten years 1885-94. The death-rate in the 33 great towns in England and Wales (representing in the aggregate a population of 10,591,530) was 20.7.

Thus, during 1895, the birth-rate in Cheshire was 1.8 below the birth-rate of England and Wales, and the death-rate in Cheshire was 0.9 below the death-rate of England and Wales.

**Infant Mortality.**—A ready method of estimating the relative prevalence of infant mortality is by calculating the proportion of deaths under one year of age to each 1,000 of registered births. Here again, great differences were recorded in different districts during 1895. The proportion was very high in Stalybridge (247 per 1,000), in Hyde (239 per 1,000), and in Dukinfield (233 per 1,000), while the proportion in Higher Bebington was only 25 per 1,000, and in the Rural District of Malpas only 39 per 1,000. The proportion in the Municipal Boroughs was 206,

in the other Urban Districts 162, in the Rural Districts 126, and in the Administrative County 163. The proportion in the whole of England and Wales during 1895 was 161, the mean proportion in the ten years 1885-94 having been 146. In the 33 great towns in England and Wales (representing in the aggregate a population of 10,591,530) the rate of mortality among infants under one year of age to each 1,000 births was 182 during 1895, as compared with an average rate in the ten preceding years of 164. Thus, in the year under review, the proportion of infants who died in Cheshire was 2 per 1000 births more than in the whole of England and Wales, and the proportion of infants who died in the Cheshire Municipal Boroughs was 24 per 1,000 births more than in the 33 great towns in the kingdom.

Two facts are, therefore, apparent—that in 1895 there was an exceptionally high infant mortality in the whole Country, and a yet higher infant mortality in the Administrative County. How are these facts to be accounted for? Doubtless the weather was one cause, for there was a rather severe winter and a prolonged hot summer. Another cause may have been a depressed state of trade which prevailed in many parts, lowering the quality and quantity of food for mothers and infants, while a third cause was probably the special prevalence or fatality of certain zymotic diseases mostly affecting young children.

There is no doubt that most of this mortality is preventable, and that a considerable proportion is due to ignorance, carelessness or neglect. This ignorance, or whatever it may be, is referred to by several of the District Medical Officers of Health. It is manifested in various ways, the little ones are insufficiently clothed, improperly exposed, given indigestible food, fed from dirty feeding-bottles and lodged in insanitary homes. The employment of mothers in factories, shortly after confinement, is also mentioned as being more or less directly responsible for the high mortality among infants in some manufacturing districts. In support of this view it may be noted that nearly all the districts in Cheshire where the infant mortality was exceptionally high during 1895, viz., the Boroughs of Hyde, Macclesfield and Stalybridge, and the Urban Districts of Dukinfield, Runcorn, Alsager, Buglawton, Northwich, and Neston and Parkgate, are places in which women are employed in factories. The large proportion of deaths of infants seems to have been mainly due to measles at Runcorn and to whooping-cough at Neston and Parkgate. The Medical Officer of Health for Stalybridge, where nearly one out of every four born died in 1895, makes no comment on the infant mortality, but here also measles seems to have been a main cause. The Medical

Officer of Health for Hyde, where the proportion of infants dying is nearly as large, recognises that this is a subject claiming attention. The causes, he thinks, are not far to seek, but difficult to remedy. "Probably one of the most potent is prematurity and want of vitality at birth, the result of early improvident marriages so frequent in all factory towns. Another cause (an indirect result of the previous one) is acute lung diseases through so many children being carried out of warm beds in the early morning, in all kinds of weather, to be nursed away from home, while their parents are both at work. As a consequence many of these children become cross and fretful, and their nurses are tempted to administer narcotics in the form of soothing syrup, &c., sometimes with disastrous results, thus providing still another cause. Diarrhœal and digestive disorders are fruitful causes of infantile deaths. These are largely caused by improper feeding, sometimes carried to such a degree as to practically amount to complete deprivation of proper nutritious food. Notwithstanding all that has been written and said on the subject of infant mortality, it is undoubtedly a melancholy fact that the most complete ignorance is still very largely prevalent on this important subject, and numbers of infants are still fed upon that most injurious and indigestible mixture popularly known as "pobs" or "pobbies," consisting of highly-sweetened bread and water pulp with, in most cases, a little milk added. The result of action taken by the Society for the Prevention of Cruelty to Children has led to the conviction of persons who have criminally neglected their children, and in some cases accelerated death. These prosecutions have shown that such cases do exist, though probably only to a small extent. Thus criminal neglect may be put down as another cause of infant mortality. These causes make up a list formidable enough, and there are others." This is a fairly efficient summing up of the main causes of infantile mortality in a factory town.

While trade depression seems to have favoured infant mortality in some localities, an opposite cause seems to have been in operation in Macclesfield Borough. One reason, writes the Medical Officer of Health for the Borough, why infant mortality was exceptionally high in 1895 may be that there was more employment for mothers in the silk trade, and so more mothers may have weaned their infants and left them to the care of others during working hours.

The assigned causes of death, in the case of infants, year after year, appear to be mainly :—

1. Premature birth, debility or marasmus.
2. Bronchitis or pneumonia.
3. Diarrhœa, gastro enteritis, &c.

4. Tubercular diseases, and
5. Convulsions.

Causes 1, 2 and 3 have been referred to already, and a few words on causes 4 and 5 will not be out of place. Though tubercular disease of the lungs (phthisis) is ordinarily a disease of young adults, there are various forms of tubercular diseases which are common among infants, *e.g.*, tubercular disease of the mesenteric glands interfering with nutrition, &c., tubercular disease of the membranes of the brain causing hydrocephalus and convulsions, and scrofulous diseases of the glands in the neck and elsewhere causing wasting discharges. Sometimes these diseases are contracted from the mother, but a frequent cause is doubtless infants being fed on raw milk from tuberculous cows. Various causes of convulsions, such as indigestion, constipation, exposure in the hot sun, &c., are also commonly preventable.

What is to be done to remedy this evil, or at least to reduce considerably the waste of infant life? At present, says the Medical Officer of Health for Macclesfield, all the Sanitary Authority can do is to improve general sanitary conditions, and see to the purity of the milk supply.

The "remedies" that have been propounded range chiefly under four heads:—

1. The prevention of the employment of mothers in factories just before confinement and for some months after.
2. The proper care of infants in the absence of their mothers, such as is afforded by *crèches* attached to factories, &c.
3. A more thorough investigation into the causes of deaths of infants.
4. More efficient teaching as to the feeding and management of infants.

There is much to be said in favour of remedies coming under the first head, for there is no doubt that the employment of married women in factories does exercise a baneful influence on the lives of their children. Under the 17th section of the Factory and Workshop Act, 1891, "an occupier of a factory or workshop shall not knowingly allow a woman to be employed therein within four weeks after she has given birth to a child," but there seems to be no adequate means for insuring that this short absence from work is insisted on. It is not incumbent on anyone to inform the factory occupier and it is not to his interest to seek for information in the matter. Dr. George Reid, who is an authority on this subject, is of opinion that every woman employed at a factory should have a period of three months at home after her confinement, and that this should be enforced by law. Prohibiting a mother

from working in a factory for three months after bearing a live child, is probably as far as the Legislature will go, and even this measure of reform will be difficult to obtain as it can hardly be expected to commend itself to employers, and is certain to be unpopular with factory women.

Remedies coming under the second head are at least more easily applied. It is not unusual for the owner of a factory to provide a library, a gymnasium, or a sick ward for his employés, or a school for their children ; providing a *crèche* or day-nursery for his employés' infants would surely be quite as useful and beneficent. It would be better if the accommodation were not offered free. When infants are left all day with a neighbour some payment is ordinarily made, and if a similar payment were demanded it would assuredly be possible for a *crèche* at a large factory to be managed on commercial lines, without loss. Dr. George Reid's proposal is that provision should be made by the State for the proper care and feeding of the infant at the expiry of the suggested period of compulsory absence from work on the part of the mother. District Councils could make the proposed provision, provided a short Act were passed, enabling Local Authorities to establish *crèches* in districts where it is the common practice of mothers to work in factories.

Remedies under the first two heads are directed against mortality among the infants of factory women, the remedies under the third head are against infant mortality caused by neglect. Unmarried mothers, drunken mothers, &c., may grossly neglect their infants, and yet by taking them to the local dispensary once or twice before the end, obtain a certificate as to the cause of death and register the death without difficulty. This should not be possible. The fact should be recognized that it is not natural for an infant to die at a few months old. In any case where there is the least ground for suspecting neglect there should be a thorough investigation into the cause of death, prior to registering the death. Again, infant insurance by companies or firms is open to objection for many reasons. There seems no sufficient reason for allowing poor parents or guardians to insure a child under five years of age for £6. If this were forbidden, its place might be taken by a simple form of State insurance, such as empowering the Government to enter into an agreement to inter any child free of cost on those in charge of it taking out a policy on its life, and paying a small monthly premium at the nearest post-office.

Remedies under the fourth head are directed against infant mortality which is the outcome of pure ignorance, and if only they could be applied extraordinary results might be looked for. Certainly a larger number of deaths

of infants are more or less directly due to the ignorant blundering of parents than to actual neglect, so that provided the ignorance be overcome what is desired would to a great extent be accomplished. Practical hygiene, so called, of an elementary character may be taught in elementary schools, and is taught largely at present. Excellent health primers have been compiled and issued for this purpose, and much useful information is thus conveyed, but such manuals, while they treat of food and cooking, water, air, the removal of waste substances, housing, clothing and personal hygiene, say very little about the baby and the obligations of the mother. Without disparaging the instruction given in general hygiene, it is impossible not to feel that something more than this is needed, *i.e.*, lessons in the nature of demonstrations which could be most satisfactorily arranged for at "continuation" schools. These must be lessons from first to last about infants and young children, their care and management. The teacher should herself be a mother and know her subject thoroughly, and should discuss with great minuteness every detail. Nothing short of this will constitute efficient teaching.

Meanwhile, since there are many poor mothers in the County who are never likely to get this teaching, it may be well for all interested to read, mark and accept the three following plain propositions.

1. That it is the duty of every healthy mother who can nourish her infant, to do so.
2. That if the mother be unable to nourish her infant, fresh milk is ordinarily the best food for it, and that to avoid all risk of conveying tubercular disease this milk should be boiled.
3. That as one of the prime causes of much sickness and mortality among infants is uncleanliness, it is the duty of every mother to keep her infant in a cleanly condition; and that to be cleanly an infant must have a clean body, dressed in clean clothes, be supplied with clean food from clean vessels, breath clean air, and live in a clean house with clean surroundings.

**Mortality Among Old People.**—The proportion of old people, among those who died in 1895, is large, thus showing that a considerable percentage of the population attain to ripe age before death removes them. Out of the 10,057 deaths registered in Cheshire in 1895, no less than 2447 were persons 65 years old and upwards, that is over 24.3 per cent. In the Municipal Boroughs the proportion was 22.1 per cent., in the other Urban Districts it was 20.8, and in the Rural Districts it was 31.6 per cent.

It will be noticed that while the infant mortality is highest in the Municipal Boroughs and lowest in the Rural

Districts, the mortality among old people is highest in the Rural Districts and lowest in the Urban Districts.

**Uncertified Deaths.**—The deaths not certified by a qualified Medical Practitioner or made the subject of judicial inquiries before a Coroner are ordinarily indicated on the Registrar's returns, but in only a few annual reports is there any reference to the matter. In the two or three large districts where information is given under this head, the proportion of uncertified deaths was small—in Crewe it was 0·96 per cent. of the deaths, and in Wallasey 0·99 per cent. In the whole of England and Wales, during 1895, the proportion was 2·3 per cent. It would be well if all the Medical Officers of Health in the County would note in their annual reports all cases of death not certified by registered Practitioners or Coroners.

**Coroners' Inquests.**—In only a small proportion of annual reports are any particulars as to Coroners' Inquests held during the year. As the verdicts of Coroners' Juries are ordinarily entered in the Registrars' returns, such information as is available might appropriately be included in their annual reports by all Medical Officers of Health in the County.

**Zymotic Diseases.**—The seven principal zymotic diseases are small-pox, measles, scarlatina, diphtheria, whooping-cough, fever, and diarrhoea, yet when the term "principal zymotics" is used it is not always understood in the same sense. Some Medical Officers of Health include under the heading "diphtheria" all deaths registered as croup; others deaths registered as diphtheria only. Again some Medical Officers of Health include under the heading "fever" typhus, typhoid, continued, relapsing, and puerperal fevers; others include the first four only, or the first three only. The wise course is to follow the practice adopted in making up the Registrar General's returns. In these summaries croup is included with diphtheria, except of course spasmodic croup, and the term "fever" includes typhus, typhoid, and continued fevers.

In 1895, the number of deaths from the under-mentioned zymotic diseases was as follows: 2 small-pox, 247 measles, 128 scarlatina, 99 diphtheria, 58 membranous croup, 110 whooping-cough, 75 typhoid fever, 1 continued fever, 38 puerperal fever, 20 erysipelas, and 453 diarrhoea. Thus the number of the principal zymotic diseases was 1173, which is equal to a death-rate of 2·08 per 1,000 living. The principal zymotic death-rate, during 1895, in the Municipal Boroughs was 3·1, in the other Urban Districts 2·2, and in the Rural Districts 1·0.

The death-rate for each of the seven principal zymotic diseases has been calculated for the Administrative County,

for the whole of England and Wales, and for the 33 large towns in the kingdom.

The results are as follows :—

1895.	Death-rate per 1000 living.		
	For Cheshire.	For the whole of England and Wales.	For the 33 large Towns of the Kingdom.
Small-pox ... ...	0.003	0.007	0.01
Measles ... ...	0.43	0.36	0.53
Scarlatina ... ..	0.22	0.14	0.18
Diphtheria and Croup...	0.27	0.25	0.35
Whooping-cough ...	0.20	0.29	0.37
Fever ... ...	0.13	0.17	0.20
Diarrhœa ... ...	0.80	0.88	1.20
7 Zymotic Diseases ...	2.08	2.14	2.84

This shows that as regards all the seven diseases, except scarlatina, the mortality in Cheshire compares favourably with the mortality in the large towns. As regards small-pox, whooping-cough, fever and diarrhœa, the mortality was relatively lower in Cheshire than in the whole country : as regards measles, scarlatina and diphtheria (including croup) the mortality was relatively higher than in the whole country.

The mortality from the seven zymotic diseases, taken together, was in the whole country 0.02 below the mean of 1893-94. This death-rate in Cheshire was therefore below the not high corresponding death-rate for the whole country.

The practice in respect of four of the zymotic diseases (small-pox, measles, scarlatina, and diphtheria), as expressly stated in many of the Reports, appears to be to obtain the isolation of patients as far as practicable, and the disinfection of infected rooms, clothing, bedding, &c., to prevent children belonging to infected houses from attending school, and, if possible, from playing with other children, to endeavour to discover the cause of the disease, to have the premises examined and defects remedied, and, in case of small-pox, to try and induce the inmates of infected houses to be vaccinated or re-vaccinated. In case of an outbreak of measles or scarlatina, it is not unusual to advise the closing of the local schools, and occasionally an outbreak of diphtheria is the occasion of this advice being given.

The Medical Officer of Health for Dukinfield suggests that notice of infectious disease having occurred in a house should be given to the librarian of the free library. Wherever free libraries have been established it would be well to do this, for there is no doubt infection may be carried by books.

The Medical Officer of Health for the Borough of Hyde recommends that when patients are treated at home notice should not only be sent to the free library but also to the employer of the parents. This certainly is not ordinarily done, and is a good suggestion.

**Small-pox.**—There were 18 cases of this disease notified in 1895, and 2 deaths. In 1894 there were 38 cases and 6 deaths. In 1893 there were 312 cases and 32 deaths. Five of the cases notified in 1895 were believed by the Medical Officer of Health for the district in which they occurred to be cases of chicken-pox, and this opinion was fully supported by an expert whom he consulted. The number of cases of small-pox in 1895 may therefore be put down at 13. The disease appeared in two Municipal Boroughs, viz., Hyde and Stalybridge; in 3 other Urban Districts, viz., Dukinfield, Northwich and Wallasey; and in one Rural District, viz., Bucklow. The case at Hyde, the case at Dukinfield, and the 2 cases at Stalybridge were promptly removed to the Hyde Isolation Hospital, where they all recovered. The 2 cases at Northwich were promptly removed to the old engine-house, which does duty as an isolation hospital in that Urban District, where one recovered and one died. As regards the 5 cases at Wallasey, provision for isolation at home could be made, which was fortunate, for although there is a very good Isolation Hospital in this district, no accommodation has been provided for small-pox cases. All the 5 patients recovered. The two cases in the Bucklow Rural District, a mother and her five-days old infant, were not in a condition for removal. The mother recovered and the infant died.

Some notes in respect to these outbreaks may be interesting:—

At Hyde the patient was a young man employed as carter to a greengrocer. He was in the habit of attending the market at Manchester, and may have contracted the disease there. He had been vaccinated in infancy and showed two good marks. The disease was extremely mild.

At Stalybridge, the first patient was a young man, a tramp, who had been vaccinated in infancy, and showed three good marks. The type of disease was modified and the eruption discrete. The second patient was a man 50 years old, a tramp, who had been vaccinated in infancy and showed two good marks. The type of disease was

severe and the eruption semi-confluent. One of these patients came from St. Helens and the other from Oldham, and neither was in Stalybridge more than one night. There was about six months between the occurrence of these two cases.

At Dukinfield the patient was a young woman, who had been vaccinated in infancy and showed two good marks. The type of disease was mild and the eruption discrete. It is not known how the disease was communicated in this case.

At Northwich, the first patient was a woman 34 years old, the wife of a coachman, and the only possible way of accounting for the disease is that she caught it from a sick tramp who came to the door to beg. She had been vaccinated in infancy and the marks of this were fairly distinct. The eruption was confluent and the course of the disease very severe, terminating in death. The second patient was a lad, 16 years old, a school-pupil, and attempts to trace the source of the disease were unsuccessful. He had been well vaccinated in infancy. The eruption was discrete and the course of the disease very mild.

At Wallasey, in every instance the person attacked had been vaccinated in infancy and the disease was modified accordingly. Two of the cases were very mild, three were well-marked. They were clearly all infected in Liverpool.

The two cases in Bucklow Rural District occurred at Oldfield, Dunham Massey. The infant, being but five days old, was of course not protected by vaccination, and died, while there was no evidence that the mother (who described herself as "a traveller") had been vaccinated. The source of infection in these cases was not traced.

The re-vaccination of inmates of infected houses was in most instances submitted to.

There is thus some evidence of the modifying effects of vaccination on the type of disease, and of the fact that this diminishes as years increase. There is also evidence of the benefit of prompt isolation of cases, and the re-vaccination of those exposed to infection. There were also instances, in 1895 as in past years, of small-pox being carried from place to place by tramps.

Beside the five cases notified as small-pox (at Cheadle and Gatley) which appeared to be chicken-pox, there occurred in the Runcorn Rural District a case of chicken-pox of so aggravated a type as to bear a strong resemblance to small-pox. Such cases being noted from time to time may be taken as indicating the wisdom of including chicken-pox in the list of notifiable diseases. When chicken-pox is mistaken for small-pox the district Medical Officer of Health may be trusted to correct the diagnosis, but should

small-pox be mistaken for chicken-pox and remain unnotified serious results might follow. Indeed this very thing happened at Northenden in 1893—a first case of small-pox was believed to be chicken-pox and not reported, small-pox being thus communicated to three persons. If all cases of chicken-pox were required to be notified, occasional cases of small-pox the Authority would otherwise hear nothing of would be reported ; and so much is small-pox modified by good vaccination that it may often fail to be recognised for what it is.

The only memorandum as to the cost of dealing with local outbreaks of small-pox is in the report from Northwich. The cost of dealing with a severe case which proved fatal in six days, and a mild case which was isolated for three weeks was £40 8s. 2d.

**Vaccination Returns**, as made by Vaccination Officers, are given by the Medical Officers of Health of Dukinfield and Wallasey. In Dukinfield the return is not satisfactory—20·0 per cent. of those born are reported as successfully vaccinated, and 15·3 per cent. as having died unvaccinated. In Wallasey the return is very satisfactory—89·6 per cent. of those born are reported as successfully vaccinated, and 8·0 per cent. as having died unvaccinated. It is only fair to note that the returns are not strictly comparable, the one from Dukinfield being for the year ending December 31st, 1895, and the one from Wallasey being for the year ending June 30th, 1895. Reports from the Boroughs of Crewe and Macclesfield are also satisfactory in respect of vaccination. Only a very small number of children born in Crewe remain unvaccinated ; and in Macclesfield, out of 1,017 children born in 1894 only 3 remain unaccounted for by the Vaccination Officer.

**Measles.**—Cases of measles are not ordinarily reported to the Medical Officer of Health, and he seldom has any official intimation of the presence of the disease till it proves fatal. The number of deaths from measles in 1895 in the Municipal Boroughs was 87, in the other Urban Districts 129, and in the Rural Districts 31—in all 247. In 1894, the number was 143 ; and in 1893, the number was 149. The disease was prevalent in all the 5 Municipal Boroughs during some part of 1895. In Stalybridge it was exceptionally fatal, causing 49 deaths, all of children under 5 years of age—equal to a death-rate of 1·76 per 1,000 living. It was prevalent at Ashton-upon-Mersey in January, at Bollington from August to November, at Bredbury and Romiley in October and November, at Dukinfield in the early months of the year, at Hoole in November, at Northwich from September to the end of the year, at Runcorn from June to September, and at Winsford during November

and December. In many rural townships the disease appeared, and in nearly every instance during the last quarter of the year. Mention is made of it at Styall, Astbury, Wrenbury, Broomhall, Winnington, Offerton, Farndon, Aldford, Halton and Walton Inferior. Reports of the closing of schools in 20 places owing to the prevalence of measles were received.

Measles was exceptionally fatal at Northwich. In this town and a small suburban district there were 34 deaths most of them being in the last quarter of the year. However the mortality in the Runcorn Urban District far exceeded this. In this district, having an estimated population of 18,500, there died 62 children from measles during the months of June, July and August.

Of the 247 deaths caused by measles 130, *i.e.* 52 per cent., occurred in the towns of Runcorn, Stalybridge and Northwich. From these and other districts evidence was forthcoming that the mortality was associated, as it often is in measles, with cold-catching. In a large proportion of the death certificates bronchitis or pneumonia was added as an accessory cause of death.

A great deal has been written and said in favour of making measles notifiable, but it is very doubtful if much would be accomplished by this. Measles is not spread by milk and drinking-water, or caused by sewer-gas, and no form of inoculation will protect a child, therefore there is no particular reason why it should be notified. Owing to the infectiousness of measles for three or four days before the appearance of the eruption, and consequently before the malady is recognised, brothers and school-fellows susceptible have probably been infected before the patient can be picked out and isolated. Even if abundant free hospital accommodation were provided (and supplying accommodation for measles is scarcely contemplated in any district), for all who could not be properly isolated at home, so large a proportion of sufferers from measles are children of tender years, that parents would not generally consent to their removal.

To reduce enormously the mortality from measles, what is needed is not compulsory notification and hospital accommodation, but *the bestowal of a little more care on each child attacked*. Ordinarily measles is a comparatively harmless malady in families comfortably off, but among the poor it is very fatal. The main difference is that well-to-do people understand the importance of keeping the child's body warm, and poor people do not.

**Scarlatina**, sometimes called scarlet fever, is reported wherever notification of infectious disease is required; thus more is known of the incidence of scarlatina than measles. In all 2911 cases were notified in the County

during 1895 and out of these 533 (18.3 per cent.) were removed to hospital for isolation and treatment.

That is to say:—

In the Municipal Boroughs 937 cases were notified and 306 removed (equal to 32.6 per cent.)

In the other Urban Districts 1165 cases were notified and 205 removed (equal to 17.6 per cent.)

In the Rural Districts 809 cases were notified and 22 removed (equal to 2.7 per cent.)

The proportion of cases removed does not appear to depend so much on the need for removal as on the facilities afforded. In Bromborough, where the Spital Hospital is available, all the 20 cases notified were removed—100 per cent. In Lower Bebington, similarly circumstanced, 36 out of 43 scarlatina cases were removed—83.7 per cent. In Hoylake and West Kirby, also using the Spital Hospital, 36 out of 49 scarlatina cases were removed—73.4 per cent. In Altrincham, where there is a suitable hospital, 18 out of 25 scarlatina cases were removed—72 per cent. In Hyde also, where the hospital is so much used by neighbouring Authorities, 297 out of 452 cases of scarlatina were removed—65.7 per cent. On the other hand, there were in the Borough of Crewe 348 cases, in the Borough of Congleton 74 cases, in Dukinfield 75 cases and in Northwich town 65 cases, not one of which was removed to Hospital, there being no hospital provision in these districts. In many Reports the want of hospital accommodation for isolating initial cases is referred to. In particular, the Medical Officer of Health for Dukinfield cites a case which he thinks must impress upon his Authority the urgency of such need in his district. A poor woman after nursing her children who had scarlatina, became infected and died of the disease, leaving four little ones just recovered, with no one to look after them but kind neighbours. Had there been a hospital in which to isolate the first of these five cases a valuable life might have been saved.

The influence of schools in spreading scarlatina is noted by many Medical Officers of Health, but according to the Reports, in only 11 places were schools closed owing to the prevalence of scarlatina. In one district (the Borough of Crewe) an effort was made to obtain the closing of Sunday Schools for a short period during which other schools were closed, and this was done.

There are not a few interesting notes, showing the various ways in which it appeared that scarlatina was spread. At Hyde a case was notified on October 28th and treated at home, yet on November 10th lodgers were admitted, without being informed of the infectious disease on the premises, and on the 14th the lodgers' child sickened with the disease. If this had not been discovered other

lodgers would have been received on the 17th. At Bollington the first case occurred in a cottage the front room of which was used as a draper's shop, and the disease was communicated to a child sent to make a purchase. At Wrenbury, in the Nantwich Rural District, the initial case in an outbreak was a child who attended the local school while still "peeling." At Handforth, in the Stockport Rural District, 3 children appear to have been infected by means of milk supplied from a house in which was a case of the disease.

In the Malpas Rural District there were two outbreaks of scarlatina exceptionally remarkable, as the source of infection seems to have been in the cows from which the milk-supply of the patients was obtained. The first of these occurred in the family of a farmer, the whole household, 9 in number, being affected. Nearly 50 per cent. of the farm cows had been and were at the time of the outbreak suffering from an eruptive disease of the teats, but the milk they yielded was not reduced in quantity. The marketable products of this dairy-farm were cheese and butter, but the farmer occasionally supplied milk to two neighbours. One of these neighbours had no children, and in the family of the other two children developed scarlatina. The second outbreak was at a farm four miles from the first, and the history of the disease was similar. Several cows had an eruption on their udders (resembling the eruption in the other cows) then members of the farmer's family were attacked and members of two other families who obtained milk from some of the diseased cows. The district Medical Officer of Health is not able to state definitely that the cows were the source of infection in these two outbreaks, but after careful inquiry into all other probable sources he feels justified in stating that the balance of evidence is in favour of that theory.

The number of deaths from scarlatina, in 1895, in the Municipal Boroughs was 52, in the other Urban Districts 50, and in the Rural Districts 26—in all 128. This is about 4·4 per cent. of the known cases of the disease. In 1894 the deaths were 4·5 per cent. of the known cases; and in 1893 the deaths were 4·8 per cent. of the known cases. The mortality per case seems therefore to be decreasing year by year. It is satisfactory to note that the proportion of cases removed to hospital is increasing: in 1895, 18·3 per cent. of the known cases were sent to hospital; in 1894, 15·5 per cent. of the known cases were sent; and in 1893, 10·5 per cent. were sent.

**Return Cases.**—This term is used to indicate cases re-appearing in households shortly after the return of a patient from Hospital. Such cases are referred to only in the Report from Hyde, and they occurred on two or three

occasions. It was very difficult to account for these, especially as great care was taken to keep patients in till peeling was finished and any discharge there might have been from ears or nose had ceased. The district Medical Officer of Health cannot account for the cases, but he points out that "when a disease is so universally spread over a town as scarlatina was spread over Hyde in 1895, it is almost impossible to say if a recurrence in the same house is the result of infection from a recently returned member of a family from Hospital or an independent and separate infection from outside."

**Diphtheria and Croup** are diseases which appear to be notified very irregularly. During the year there were 402 cases of diphtheria notified and 99 deaths, while there were 56 cases of croup notified and 58 deaths. Fifty-seven of the cases of diphtheria and one of the cases of croup were removed to hospital. In detail the record stands thus:—

1895.	Cases Notified			Deaths		
	Diphtheria	Croup	Total	Diphtheria	Croup	Total
Municipal Boroughs	147	19	166	42	20	62
Other Urban Districts	142	25	167	34	27	61
Rural Districts	113	12	125	23	11	34
Total ...	402	56	458	99	58	157

Thus taking the two diseases together (for there can be no doubt that what is called croup is often true diphtheria) in the Municipal Boroughs 37.3 per cent. of the known cases died, in the other Urban Districts 36.5 per cent. of the known cases died, and in the Rural Districts 27.2 per cent. of the known cases died. The death-rate, per 1000 living, in the Municipal Boroughs was 0.43, in the other Urban Districts 0.25, and in the Rural Districts 0.18.

Cases of diphtheria or croup were reported in all the Municipal Boroughs, and in all the other Urban Districts except Bollington, Bowdon, Buglawton, Knutsford, Neston and Parkgate, Northwich, Sandbach and Winsford, and in all the Rural Districts except Drayton, Malpas, Tintwistle and Wrexham.

Nearly two-thirds of the deaths and about three-fourths of the cases of the two diseases reported in the Municipal Boroughs occurred in Macclesfield. The epidemic here commenced in June and continued till the end of the year. It was preceded by a prevalence of sore throats which were not at the time supposed to be

diphtheritic. Of the 123 cases, 55 occurred at houses in good or fair condition and only 20 at houses in bad sanitary condition. Material was sent from some of the more doubtful cases to the British Institute of Preventive Medicine for bacteriological examination, and reports thereon. In view of the impossibility of diagnosing many cases without such examination, the Medical Officer of Health suggests to his Authority to provide him with a small bacteriological laboratory. One school was closed, owing to the prevalence of the disease, early in November, and late in December the school managers were advised to prolong the Christmas holidays for a fortnight, and the managers of all local schools, including some Sunday Schools, did this. School teachers gave much assistance in preventing unsafe children attending school, but their vigilance could not be expected to eliminate all the infectious ones. The Medical Officer of Health recommends that such schools should be supplied with a clinical thermometer, and by use of it the head teachers would be able to ascertain at once whether any child who did not appear to be well was becoming feverish—the first symptom of the onset of all infectious diseases. There was no reason to attribute the disease in a single case to anything but personal infection of one child by another. As regards the relationship between insanitary conditions and diphtheria, the opinion expressed is that when there is an outbreak in an insanitary dirty house, the symptoms are likely to be severe, and the infection is more likely to spread from one to another.

At Hyde the Medical Officer of Health found that unrecognised cases were a main source of danger, and recommends the Council to make arrangements with the laboratory authorities at the Owens College to have morbid products in doubtful cases bacteriologically examined and reported on.

At Dukinfield experience seems to show year by year that compulsory attendance at school favours the spread of diphtheria, and that children suffering from any form of sore throat should be kept from school. At Ashton-upon-Mersey and Tarporley cases of diphtheria were associated with previous cases of sore throat. At Tarporley a child certainly caught the disease at a school outside the district.

Many cases of diphtheria appear to have been associated with insanitary conditions. At Hollingworth the first case seemed to be caused by foul air from defective drains. The investigation of an outbreak at Heatley, in the Lymm district, showed grave defects in the drainage system of the two blocks of houses where the cases occurred. At a school in the Bucklow Rural District, where the disease appeared, it was found that the scholars

were supplied with water unfit to drink. At Disley a fatal case of membranous croup occurred in a house where the drains were very defective, and the back of the premises was in a state of nuisance. Three outbreaks in Townships in the Runcorn Rural District were associated with defective sanitary arrangements. At Wallasey in 5 out of 25 cases of diphtheria and croup, distinct sanitary defects were discovered on the premises where the diseases occurred. In the Macclesfield Rural District it was found that out of 32 cases of diphtheria investigated 7 were in premises with wet uncovered ashpits in the rear, and 8 were in premises the sanitary conditions of which were defective in other respects. An outbreak in this district deserves special notice, as it illustrates the extraordinary fatality of diphtheria in an insanitary and over-crowded house. On November 14th, the District Medical Officer of Health received notifications of 3 cases of diphtheria at a cottage in Mill Lane, Capesthorne, and on visiting the premises learned that one of the patients had died on the 13th. On the 15th notifications of three more cases were received of the same disease at the same cottage. The six patients were a mother and five children, and by November 26th, all were dead but the mother. The cottage where all these deaths took place provided accommodation for a man and wife and two children, but nine persons were crowded into it. About ten yards from the kitchen was a very offensive pit for collecting liquid manure containing decomposing vegetables, &c.

**Whooping-cough** is not notified and the extent of its prevalence has to be gauged by the death record. The number of deaths in 1895 in the Municipal Boroughs was 33, in the other Urban Districts 44, and in the Rural Districts 33—in all 110. The number of deaths from this cause, in 1894 was 217, and the number in 1893 was 120. The disease was specially prevalent in Wirral and at Neston and Parkgate, at Middlewich and the Boroughs of Stalybridge and Macclesfield. Whooping-cough is very difficult to deal with from a public health point of view. Its onset is insidious, and the catarrhal stage (during which the symptoms are not characteristic) commonly lasts nearly a week. As a matter of fact little seems to be done throughout the County to stop the spread of this disease. Still there is no doubt about the infectiousness of whooping-cough, or the need of keeping infected children from others and in particular from school. The mortality from whooping-cough would probably be much reduced if those in charge of children regarded the disease more seriously, and had the patients properly nursed and kept warm. And this mortality needs

reducing, for whooping-cough is the most fatal of all infectious diseases of children under five years of age.

**Fevers.**—In the official form, furnished to Medical Officers of Health by the Local Government Board, and used for making mortality returns, "Fevers" appears at the head of five columns, and the five sub-headings are "Typhus," "Enteric or Typhoid," "Continued," "Relapsing," and "Puerperal." Under typhus and relapsing fever no cases were notified. There were 420 cases of typhoid fever notified and 75 deaths. There were 24 cases of continued fever notified and there was one death. There were 51 cases of puerperal fever notified and 38 deaths.

**Typhoid and Continued Fever** may be considered together, as it seems probable that a large proportion of cases notified as continued fever are really typhoid fever. Of the 447 cases notified in the County during 1895, only 52 (11.6 per cent.) were removed to hospital. That is to say:—

In the Municipal Boroughs 130 cases were notified and 2 removed (equal to 1.5 per cent).

In the other Urban Districts 236 cases were notified and 48 removed (equal to 20.3 per cent).

In the Rural Districts 81 cases were notified and 2 removed (equal to 2.4 per cent).

As in previous years a large number of cases (67) occurred at Wallasey. There were also many cases in 3 of the Municipal Boroughs—43 in Stalybridge, 38 in Macclesfield, and 35 in Hyde—and in a few of the other Urban Districts—29 in Runcorn, 24 in Dukinfield, 18 in Mottram, and 14 in Cheadle and Gatley.

Though Wallasey still heads the list it is pleasant to note that the number of cases and deaths recorded is decreasing year by year. Thus the 67 cases and 8 deaths in 1895 compare favourably with 89 cases and 13 deaths in 1894 and 132 cases and 23 deaths in 1893. Of the 67 cases notified in 1895, two (which proved fatal) were brought into the district with the disease, and a third case was probably imported, another case was pretty clearly traced to eating oysters, and very many occurred on premises the sanitary conditions of which were bad. It is, however, noted that the defects discovered in houses where typhoid fever occurred were neither so frequent nor so grave as in former years. The state of the old sewers and drains in the district is mainly accountable for the occurrence of the cases; and the re-construction of these is going on year by year. Twenty-eight of the cases were removed to the Isolation Hospital.

At Stalybridge the disease was prevalent chiefly in the autumn. The Medical Officer of Health visited every

house in which a case occurred, and carefully investigated each case but could find nothing to cause the disease. He suggests that the excessive heat in September, followed by damp and rain in October, may account for the increased prevalence of the malady at this time. Ten cases proved fatal—a large proportion.

In the Borough of Macclesfield the number of cases of typhoid fever would have been below the average, but for an outbreak of the disease in the Asylum, at Parkside, during the summer. This outbreak was carefully investigated and formed the subject of a Special Report. It appeared to be due to defective drainage from the laundry, allowing some contamination of the drinking-water.

There is no reason assigned for the prevalence of typhoid fever at Hyde, but it is stated that much remains to be done there in the way of closing and altering insanitary houses, that the midden-privies should be done away with and that many of the sewers require to be ventilated.

The 29 cases of typhoid or continued fever notified in the town of Runcorn compares very favourably with the number notified in recent years in the district. As there were only two deaths, the death-rate as regards fever was exceptionally low. Two cases occurred in a house situated in a street where there had been much typhoid fever in former years. Before the onset of the disease there had been a great nuisance from bad smells over the yard-traps, and it was thought that, through want of ventilation of the drain the water was occasionally syphoned out of these traps. The back-passage drain was ventilated and trapped before joining the sewer, and the nuisance abated.

The explanation of the outbreak of typhoid fever at Mottram in August is interesting. There had been a case of the disease in May at Gorsey Brow, and the sewage from this locality emptied itself into the old main sewer at Broad-bottom, which was opened and left open for many weeks, during the laying of the new main sewer, at the time of the outbreak. The cases occurred in two or three streets in close proximity to the open sewer, and the district Medical Officer of Health has no doubt that typhoid germs emanated from the old sewer and originated the outbreak.

Nearly all the cases of typhoid fever in Cheadle and Gatley occurred after the exceptionally hot weather in September. In one case the patient had drunk, when on a pic-nic, some running water which was contaminated with sewage. In two cases the patients had been working near sewage and nightsoil, while in another the disease was associated with drainage defects allowing an escape of sewer-gas. Two cases were fatal, and in one of these the patient travelled by rail into the district while suffering from the disease.

At Bollington typhoid fever appears to have been imported from Manchester. In another case, the disease was attributed to foul exhalations from grids and defective drains near the house.

At Marple the first case was undoubtedly imported from a distant village in Buckinghamshire, the patient having been employed nursing a typhoid fever case prior to going to Marple for a holiday.

Five cases in different parts of the Bucklow Rural District were on investigation found to have been contracted outside the District. In other cases the insanitary condition of the houses where they occurred was so bad, that the houses were closed and are to be demolished.

Two cases in the Runcorn Rural District appeared to be due to emanations from sewers, and two other cases are ascribed to drinking polluted water.

To sum up, it may be noted that outbreaks of this disease, throughout the year, have been often ascribed to defective drains, emanations from sewers, &c., and in a few instances to drinking polluted water.

There are several records of the disease being imported into a district, and some of the disease being imported into the County. This is almost inevitable, as in typhoid fever the interval between exposure to infection and the development of distinct symptoms is commonly from 12 to 14 days.

One thing, at least, is satisfactory, that whereas Cheshire has for many years had a far lighter typhoid fever death-rate than the whole of the country, this death-rate was, in 1895, 0·04 lower in Cheshire than in the whole country.

The number of deaths from typhoid fever, in 1895, in the Municipal Boroughs was 33, in the other Urban Districts 29 (including one registered as continued fever), and in the Rural Districts 14—76 in all. Thus 17 per cent. of the known cases of the disease died. In 1894 there were 81 deaths—18 per cent. of the known cases. In 1893 there were 118 deaths—15·4 per cent. of the known cases.

**Puerperal Fever.**—A very large proportion (about three-fourths) of the notified cases of this disease proved fatal. In the Municipal Boroughs there were 10 cases notified all of which proved fatal. In the other Urban Districts 29 cases were notified and 20 deaths. In the Rural Districts 12 cases were notified and 8 deaths. In many cases the first intimation the Medical Officer of Health has of a case is after the death of the patient. In very few instances is it practicable to send a case of puerperal fever to hospital—only one of the 52 known cases was sent in 1895. In only a single case were sanitary

defects noticed on the premises where the disease occurred. The marked infectiousness of this disease has been often observed. In the Bucklow Rural District, as a second case of the disease occurred in the same neighbourhood and attended by the same midwife, the woman was directed to abstain from the practice of her vocation for 2 months. Another midwife in this district, who had attended a fatal case of puerperal fever was similarly warned. In the district of Neston and Parkgate, after a fatal case of puerperal fever the bedding, &c., was burned, and compensation granted. The Medical Officer of Health for the Borough of Hyde, in which there were 5 fatal cases of puerperal fever, in 1895, regrets that so little attention is given to the prevention of septic disease after confinement, among women not attended by medical practitioners. In one or two instances midwifery nurses who had been in contact with puerperal fever cases, applied at the Hospital to be disinfected before proceeding with work; and he desires it to be known that any nurses attending such cases will be disinfected on application.

**Diarrhœa.**—The last of the seven principal zymotic diseases is associated in the official form for mortality returns with dysentery, but the latter is so seldom the cause of death in this country that in ordinary years it may be disregarded. Diarrhœa is not notified, and the extent of its prevalence, year by year, is measured by its death record. In the Municipal Boroughs there were 181 deaths ascribed to diarrhœa, in the other Urban Districts 210 deaths, and in the Rural Districts 62 deaths. Out of the 453 deaths in 1895, 401 were of children under five years of age. The number of deaths for diarrhœa in 1894 was 168, and the number in 1893 was 652. This disease prevails to some extent every autumn, and is associated with high temperature and putrefactive changes in food. As indicating the connection of this disease with the food of those who suffer, it has often been proved by statistics to be specially a disease of hand-fed infants. As illustrating the concurrence of infantile diarrhœa with a continued elevation of the temperature of the earth, the Medical Officer of Health for Crewe notes that during July, August and September, when diarrhœa was prevalent, the 1 ft. and 4 ft. earth thermometers registered respectively, with only the slightest variations, 62 degrees and 58 degrees Fahr., and that when this temperature suddenly fell during October, the deaths from infant diarrhœa ceased. He also, by comparing groups of houses together, shows how very much higher the diarrhœa death-rate is in houses having pail closets or cesspools than in similar houses having water-closets. The Medical Officer of Health for Hyde draws attention to the absolute necessity for cleanliness in the

management of milk and feeding bottles—want of such cleanliness being associated with the prevalence of infantile diarrhoea.

In some Urban Districts the mortality from diarrhoea was quite exceptionally high. For instance, there were 34 deaths from this cause in Altrincham. During the 14 years preceding 1895, the average number of deaths from diarrhoea was 8, and the highest record in any of these years was 16, in 1882. The diarrhoea death-rate, in 1895, was equal to 2·6. So serious were the symptoms in some of the cases, that care was taken to obtain speedy burial, and the premises where the cases occurred were disinfected.

The Medical Officer of Health for Wallasey raises the question whether deaths certified as due to enteritis or gastro-enteritis are not really diarrhoea, and whether it would not be wiser to class them with diarrhoea rather than enter them among the local diseases of the digestive organs. Referring to the deaths in his district in 1895, he writes:— Of the 29 deaths ascribed to diarrhoea 19 were infants under one year of age, and of the 29 deaths ascribed to enteritis 23 were infants under one year of age. Of the deaths ascribed to diarrhoea 26 were in the four months—July to October; and of the deaths ascribed to enteritis 23 were in the four months—July to October. Thus the deaths recorded as from “enteritis” or “gastro-enteritis” are really deaths due to infantile diarrhoea, and the distinction in name is due only to a somewhat new method of classifying such deaths. According to this the diarrhoea death-rate, in Wallasey, during 1895, should have been given at 1·48 instead of at 0·74. A large proportion of these deaths are due, he believes, to the defective drainage of premises where they occur.

**Erysipelas** is notified, but not as regularly as some infectious diseases. In the Municipal Boroughs there were 55 cases notified and 9 deaths, in the other Urban Districts there were 178 cases and 8 deaths, and in the Rural Districts there were 76 cases and 3 deaths. Of the 309 cases reported 6 were treated in hospital. In 1894 the number of cases notified was 397 and the number of deaths was 23. In 1893 the number of cases notified was 538 and the number of deaths was 27. Erysipelas is certainly associated with insanitary conditions, and this is witnessed to in two or three reports. In another report 3 cases of the disease are ascribed to cold. The Medical Officer of Health for the Runcorn Rural District is of opinion that, in Rural Districts, erysipelas might be removed from the list of notifiable diseases; and the Medical Officer of Health for Dukinfield furnishes the remarkable intimation that the local Sanitary Committee, “at a recent meeting decided

that in future erysipelas should not be included among the diseases to be notified."

**Influenza.**—The official form on which the mortality returns from districts are made does not indicate that a separate return in the case of influenza is required, but the heading of one column "is left blank for the insertion of influenza or any other disease which it may be thought desirable to record." In a large number of the returns from districts in the Administrative County, the blank heading has been filled in "influenza," and in none of them has it been filled in with the name of any other disease, so that in 1895, for the first time, there is a fairly accurate record of the deaths ascribed to influenza. Hitherto in the official returns, the deaths from this disease have for the most part been included in the figures which refer "to all other diseases." The number of deaths in the Municipal Boroughs was 27, in the other Urban Districts it was 56, and in the Rural Districts it was 74. Of the 157 deaths only 9 were of children under five years of age and a large number were of persons well advanced in life. Influenza was most prevalent in the spring and early part of the year, and in a few districts recurred towards the end of the year. There was a very remarkable outbreak of this disease in the Congleton Union Workhouse at Arclid, where eleven persons died of influenza between March 14th and 30th. Beside the large number of deaths from this disease it must have left many of those who recovered in a weak condition, peculiarly liable to pneumonia, bronchitis and some other diseases. Several suicides in the year's record are also ascribed to the depression following influenza.

There is no doubt about the infectiousness of influenza, and this infectiousness appears to continue from the onset of the disease till the patient is sufficiently convalescent to resume his ordinary occupation, but there is very little that the local Authority can do to limit the spread of the disease when it has once appeared in a district.

**Rheumatic Fever** (sometimes called acute rheumatism) used to be classed with zymotic diseases, but it is now generally regarded as a constitutional disease and classed with gout, cancer and the various forms of tuberculosis. There were 4 deaths ascribed to this cause in the Municipal Boroughs, 13 in the other Urban Districts, and 8 in the Rural Districts. The number of deaths from this cause in 1894 was 32, and the number in 1893 was 37. Sanitary Authorities cannot do much to reduce the mortality from this disease, except in so far as they can prevent the building of damp houses on damp sites.

**Phthisis.**—In the Municipal Boroughs phthisis was certified as the cause of death in 246 cases; in the other

Urban Districts it was certified as causing 239 deaths, and in the Rural Districts as causing 206 deaths. In the Municipal Boroughs the death-rate was 1.71, in the other Urban Districts the death-rate was 1.00, and in the Rural Districts the death-rate was 1.12. The phthisis death-rate for the whole County, in 1895, was 1.22. This death-rate for the whole County, in 1894 was 1.12, and in 1893 was 1.25. The phthisis death rate for the County in 1895 does not differ much from the mean in recent years; however very high death-rates are still returned from the Borough of Macclesfield (2.24) the Borough of Hyde (1.95) and the Borough of Stalybridge (1.73). On the other hand the phthisis death-rate for Altrincham, which in some recent years has been exceptionally high, was in 1895 only 1.07.

Owing to the high death-rates from phthisis recorded in Altrincham in 1893 and 1894 and to a statement of the late Medical Officer of Health for Bowdon that tuberculous cases appeared to have developed locally with the growth of the Consumption Hospital, &c., the following Resolution was passed by the Public Health Committee on July 12th.

**RESOLVED**—“That the County Medical Officer of Health be requested to confer with the Medical Officers of Health of the Altrincham and Bowdon Urban District Councils, with reference to the number of cases of Phthisis in those Districts, and report to this Committee the result of such conference and any recommendations he may consider it advisable to make thereon.”

This conference took place in due course, and a report thereon was submitted at a meeting of the Public Health Committee, on October 25th, when the following resolution was passed by the Committee.

**RESOLVED**—“That the following recommendations of the County Medical Officer of Health be approved and transmitted to the Governing Authorities of the Institutions mentioned therein.

1. That the Management of the Consumption Hospital (known as St. Anne's Home, Bowdon) be requested to keep their patients within the grounds of the Institution as far as possible.
2. That the Management of the said Hospital be requested to notify to the District Medical Officer of Health when any patient being discharged from the Hospital proposes lodging in any district within the County.
3. That the Management of the Manchester Hospital for Consumption and Diseases of the Throat be requested not to sanction the treatment of patients suffering from consumption, as out-patients, by the Staff of St. Anne's

Home. *This treatment of out-patients by the Staff appears never to have been sanctioned.*"

The Medical Officers of Health for the Boroughs of Hyde and Macclesfield furnish copies in their reports of handbills which they have drafted giving directions for the guidance of consumptive patients, with a view to prevent such patients communicating the disease to others.

The Medical Officer of Health for Hyde considers that as it is important that what is expectorated by phthisical patients should be thoroughly destroyed, the best kind of receptacle for the patients' phlegm is one made of waterproof paper, which is light and costs little, and can be burnt with its contents.

**Bronchitis, Pneumonia, &c.**—The group of lung diseases which are more or less directly the result of catching cold (bronchitis, pneumonia and pleurisy) accounts for a very large number of deaths year by year. In 1895 there were 606 deaths due to these causes in the Municipal Boroughs (equal to a death-rate of 4.23), in the other Urban Districts there were 734 deaths due to these causes (equal to a death-rate of 3.09), and in the Rural Districts there were 508 deaths due to these causes (equal to a death-rate of 2.77). This shows, as the record of previous years has shown, that the mortality was relatively higher in the Municipal Boroughs than in the other towns and relatively higher in the towns than in the Rural Districts. The death-rate for the whole County was 3.28 in 1895, and 2.79 in 1894.

Among the highest death-rates from these causes were those returned at Stalybridge (5.33), Hyde (4.92) and Dukinfield (4.39).

**Heart Disease.**—In the Municipal Boroughs, 242 deaths (equal to a death-rate of 1.69) were due to this cause; and in the other Urban Districts, 311 deaths (equal to a death-rate of 1.31) were due to this cause. In the Rural Districts 267 deaths (equal to a death-rate of 1.45) were due to this cause. The death-rate for the whole County was 1.45 in 1895, and 1.32 in 1894.

**Deaths from Injuries.**—Under the heading "Injuries" are classed all death-causes which are the direct result of physical or chemical forces—whether due to accident, negligence, manslaughter or suicide. In the Municipal Boroughs, 59 deaths (equal to a death-rate of 0.41) were due to injuries; in the other Urban Districts 122 deaths (equal to a death-rate of 0.51) were due to injuries; and in the Rural Districts, 116 deaths (equal to a death-rate of 0.63) were due to injuries. The death-rate for the whole County was 0.52 in 1895, and 0.43 in 1894. It is remarkable how much higher this death-rate was

in the Rural Districts than in the towns. Yet in some of the towns this death-rate was high—in Wallasey it was 0·79, in Dukinfield, 0·80, and in Runcorn it was 1·24. Most of the deaths from injuries were, of course, due to accident, but the proportion is not stated. Indeed, there is no way of ascertaining this, for even when inquests are held, such verdicts as “found dead,” “found drowned,” &c., are often given, and throw no light on the question—accident or otherwise?

**Intemperance**, though one of the terms used by the Registrar-General in classifying death causes, is not made use of in the forms supplied to Medical Officers of Health, so that any deaths certified as due to this are entered under the heading “all other diseases.” There is no reference to intemperance as a cause of death, except in three or four of the Reports. In the Borough of Crewe, 3 deaths in respect of which inquests were held were found to be due to alcoholism. In the town of Nantwich was a death ascribed by the coroner’s jury to “excessive drinking.” In the town of Northwich were two deaths—one ascribed to “alcoholism” and another to “alcoholic convulsions.” Again, in Wallasey intemperance was certified as the cause of 2 deaths and delirium tremens as the cause of one. Intemperance is so largely concerned in causing disease and premature death directly or indirectly, that the number of times in which it is certified as *the* cause of death is of little significance.

**Prevalence of Rabies.**—Twenty-two outbreaks of this canine disease occurred in various parts of the county, viz., Macclesfield Forest, Allostock, Cheadle, Altrincham, Wilmslow, Alderley Edge, Nantwich, Rainow, Runcorn, Bredbury, Hurleston, Lower Whitby, Hanbury, Fulshaw, Winsford, Shavington, Bramhall, Middlewich, Sale, and Lower Withington. In some of these places there was more than one outbreak. The first outbreak occurred on January 29th and the last on September 13th. During March and April 13 outbreaks were reported.

**Persons Bitten by Rabid Animals.**—The dog who suffered from rabies at Alderley Edge, early in the year, unfortunately bit two persons. These were promptly sent to the Pasteur Institute in Paris, and the district Medical Officer of Health reports that the treatment they received appears to have been successful.

**Hydrophobia.**—A case of this fatal disease occurring in any district is so unusual as to call for remark. One occurred at Winsford in May. A boy, 7 years old, son of a night-watchman, was bitten by a dog on April 20th, and died in convulsions, due to hydrophobia on May 15th. The death formed the subject of an inquiry before a Coroner.

On the day after this dog bit the boy it was found (wearing a "strap" muzzle) by a Winsford man and kept by him till April 24th, when in consequence of its strange manner he killed and buried it. On May 23rd the dog's carcase was exhumed, and examined by the local Veterinary Inspector, who certified that the animal had suffered from rabies.

**The Infectious Disease (Notification) Act, 1889.**—

This Act came into force in London as soon as it became law. As regards the rest of the country it is an "adoptive" Act, by vote of the Local Authorities, after public notice has been given. The obligation to notify each case of infectious disease rests on the householder and medical practitioner in attendance. Generally only the practitioner notifies, but the householder being also responsible prevents him from evading notification by not calling in a doctor. The infectious diseases to which the Act applies are small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names:—typhus, typhoid, enteric, relapsing, continued, or puerperal. Also the Local Authority may, by resolution, order any other infectious disease, either temporarily or permanently, to be added to this list; but such order has no validity until approved by the Local Government Board.

At the close of the year 1893, all but 6 of the Local Authorities in the County had adopted this Act. None adopted it in 1894, but in January, 1895, the Marple District Council adopted the Act. Thus there remain but 5 Districts in which the provisions of the Act are not in force, viz.:—

Congleton Municipal Borough.

Crewe Municipal Borough.

Sandbach Urban District.

Yeardsley-cum-Whaley Urban District.

Nantwich Rural District.

The Medical Officers of Health who advise the Authorities in these districts appear to be favourable to the adoption of the Act. At Congleton the Medical Officer of Health has on three or four occasions urged his Authority to adopt the Act, but it has been decided not to do so by a large majority. In his Report for 1895, he remarks with reference to an epidemic of scarlatina, "if the cases were reported to the Medical Officer of Health, under the provisions of the Infectious Disease Notification Act, by the parents and medical men in attendance, they could all be dealt with satisfactorily in a tenth of the time it now takes to trace a part of them." At Crewe the Medical Officer of Health receives reports of many cases of infectious disease through the Relieving Officer and School Attendance Officer, still he feels the need of compulsory notification, and is constantly urging his Authority to adopt the Act. He believes

that, in 1895, scarlatina spread from unknown cases, and that unreported cases of typhoid fever prevented his tracing the source of this disease. The Medical Officer of Health for Yeardsley-cum-Whaley has commented in many Reports on the Act not being adopted. The Sandbach Urban District and Nantwich Rural District also received good advice on this topic.

At Buglawton it seems that neither medical practitioners nor householders appreciate properly their obligations under this Act. It has been in force three years, but all the cases of notifiable disease are not disclosed by its means as they ought to be. Notifications from medical practitioners are few and generally received too late to be of much use.

At Dukinfield the Medical Officer of Health does not find notification of much use as very few infectious cases can be properly isolated at home, and Isolation Hospital provision has not been made.

At Bredbury and Romiley cases have been notified much more satisfactorily than hitherto. Early in the year placards were posted and little books prepared for the Medical Officer of Health and Inspector to give away as required. These contained particulars of the provisions contained in the Act, and a few rules to be observed by persons having charge of infectious cases. The requirements of the Act have thus been made known and compliance therewith has been obtained.

In the Buckluw Rural District, a prosecution was instituted at the Lymm Petty Sessions, against a village shopkeeper for having two cases of scarlatina in his house, in the peeling stage, without sending notice to the Medical Officer of Health. No Medical Practitioner had been called in, and the defendant pleaded ignorance of the law. A conviction was obtained, and a fine imposed. Subsequently placards were posted and handbills distributed drawing attention to the obligation resting on the householder to give information, which is quite independent of the similar obligation resting on the Medical Practitioner in attendance.

**Notification of Sickness by Friendly Societies.**—In April, 1894, the Medical Officer of Health for Crewe instituted a system of notification of sickness by Friendly Societies. The system of notification is continued, and by its instrumentality not a few insanitary conditions have been rectified. The returns sent in from the Societies' Secretaries average 15 a week. The short experience he has had of the method convinces him that much valuable information would be obtained if the Secretaries of all the registered Friendly Societies were required to forward their sick returns to the local Medical Officer of Health. Even

if a payment were made, say of three-pence for each return, the aggregate cost would not be great.

**Isolation Hospitals.**—The hospital accommodation in the Administrative County for isolation and treatment of infectious disease is as follows:—

Altrincham Urban District—Lloyd's Fever Hospital.

Bucklow Rural District—A marquee.

Congleton Municipal Borough—Four cottages set apart for small-pox cases.

Congleton Rural District and Sandbach Urban District—A temporary hospital at Arclid.

Crewe Municipal Borough—A farm house set apart for small-pox cases.

Hyde Municipal Borough—Hyde Hospital.

Macclesfield Municipal Borough—A small "Ducker" hospital.

Northwich Urban District—A marquee and an old building.

Northwich Rural District—A small temporary hospital close to the town of Northwich.

Runcorn Urban District—Runcorn Hospital.

Runcorn Rural District—A temporary hospital at Moore, lent by the Manchester Ship Canal Company.

Wallasey Urban District—Mill Lane Hospital.

Winsford Urban District—A very small temporary hospital.

Wirral Rural District and Higher Bebington, Lower Bebington, Bromborough, Neston and Parkgate, Hoylake and West Kirby Urban Districts, forming the Wirral Joint Hospital District—Greasby Hospital and Spital Hospital.

In all 106 beds are provided in permanent hospitals and 142 beds in temporary erections, making together a provision of 248 beds.

The other Isolation Hospitals in the Administrative County, which do not belong to District Councils Urban or Rural, are the Liverpool Port Hospital, the Bromborough-pool Works Hospital, the Macclesfield Guardians' Hospital, and the two Isolation Hospitals provided at the County Asylums at Upton and Parkside. The Port Hospital is for cholera cases occurring on ship-board. The Bromborough-pool Hospital belongs to Price's Patent Candle Company and is solely for the use of employés at the Works. The Macclesfield Guardians' Hospital is for cases of infectious disease arising in the workhouse, and the Asylums' Hospitals are, of course, exclusively for cases occurring among the inmates of the Asylums. Thus not one of these hospitals is generally available.

The small portion of the Wrexham Rural District in Cheshire has the right to use the Wrexham Joint Hospital, and the Fever Hospital in connection with Chester Infirmary is used by the Hoole Urban District and the Chester and Tarvin Rural Districts. Stockport Borough Hospital, which, like the Chester Infirmary, is outside the Administrative County, is used to some extent by neighbouring districts. Monsall Hospital, near Manchester, appears to be used to a very slight extent (or can be used) by Sale Urban District and Macclesfield Rural District. Warrington Hospital, not very long since could, by agreement, be used by two districts contiguous, but the agreements have been terminated. How singularly inadequate the existing hospital provision is to meet the requirements of an area with a population of 563,000 must be obvious. And the provision made is even more inadequate than it looks on paper, so that not infrequently infectious cases have to be treated in workhouses, and many who cannot be properly housed and isolated at home are not removed, and remain as possible sources of infection to members of their families and neighbours. Adopting the Infectious Diseases Notification Act is doubtless a wise and right thing to do ; but if when a case of infectious disease is notified—it may be the initial case in an epidemic—there is no means of isolating the patient, the Local Authority have not done all that was practicable for preventing the spread of infectious disease. Of the 4194 cases of infectious disease notified in 1895, only 656 (15·6 per cent.) were isolated in hospital.

In many of the Reports are references to the need of Isolation Hospital accommodation, and in a few are statements as to what has been done or is under consideration. At Crewe the house reserved for small-pox cases has been kept in order, and a tender has been accepted for building a new Isolation Hospital which is to provide 28 beds and to be available for cases of infectious disease other than small-pox. Owing to the epidemic of scarlet fever at Hyde, the Isolation Hospital there was overtaxed. The Medical Officer of Health reports that a laundry and a discharging room, a pair of wards for one other disease at least and an observation ward are needed. There is also need of more efficient means of filtering the sewage effluent, at this Hospital. The Medical Officer of Health for the Borough of Macclesfield reminds his Authority that the temporary hospital is rapidly deteriorating, and that the present is a good time to consider the question of further provision being made. The Authority is in favour of joint hospital accommodation if this can be arranged satisfactorily with neighbouring districts. The Knutsford Urban District Council have been endeavouring to come to agreement with the District Councils of Wilmslow and Alderley Edge to

provide a Joint Hospital at Mobberley. From Marple the report is that negotiations with the Stockport Rural District and with the Bredbury and Romiley District to jointly provide a hospital have fallen through, and nothing has been done. The Northwich Rural District Council have somewhat enlarged their small temporary hospital at Marbury. Early in the year the Wirral Joint Hospital Board erected an additional pavilion on the Spital Hospital grounds, and this has been furnished with 12 beds. The Wallasey Urban District Council are erecting a new wing to the administrative block at their Isolation Hospital, but they are still without any accommodation for small-pox cases.

Many of the Isolation Hospitals in the County have done excellent service during the year, but in more than one instance the demands made for accommodation have been in excess of what was provided, causing distinct over-crowding.

**The Isolation Hospitals Act, 1893.**—This Act, which was passed on December 21st, gives most important powers to County Councils, and will enable them to take an active part in obtaining the provision of efficient hospitals for isolating and treating cases of infectious disease. The Public Health Act, 1875, gave powers to Local Authorities, separately and jointly, to provide hospitals for infectious cases; but as many Authorities neglected to use the powers conferred or used them inadequately, and there was no ready way of moving these Authorities to make sufficient hospital provision, it seemed that further legislation was needed, and this is supplied by the Isolation Hospitals Act. The Clerk of the County Council, in January, 1894, issued a summary of the principal provisions of the Act—the Council will, therefore, be generally familiar with these. Without going into particulars it may be well here to call attention to the contents of the Sections 2, 3, 4, 5 and 6 of the Act. Section 2 refers to limits. The Act does not extend to Scotland or Ireland or London, or to any County Borough or except with consent to any Borough, only in case of a Borough of under 10,000 population the Local Government Board may direct that the Act shall apply. Section 3 empowers the Council of every County to provide, or cause to be provided, hospitals for the reception of infectious cases, on application being made to them and proof adduced as mentioned in the Act, to the effect that necessity for such hospitals exists. Section 4 states that the application may be made by one or more Local Authorities as defined by the Act, or by not less than 25 ratepayers in any contributory place. Section 5 directs that the application must be made by petition, and must state the district for which the hospital is required and the

reasons for its establishment. The County Council are to consider the petition, and if satisfied that a *prima facie* case is made out, cause an inquiry to be made as to the necessity for the establishment of a hospital. By Section 6 a County Council may direct their Medical Officer of Health to make an inquiry as to the necessity of an Isolation Hospital being established for the use of any particular district, and if he reports that such a hospital ought to be established, the Council may take the same proceedings for its establishment as if a petition had been presented by a Local Authority.

It will be remembered that:—

- (1) In January, 1894, the consideration of this important Act was postponed until it could be ascertained to what extent the Local Government Bill, then before Parliament, would if passed into law interfere with the existing areas of the Sanitary Authorities of the County.
- (2) In October, 1894, the further consideration of the Act was postponed until after the establishment of the new Urban and Rural District Councils; and it was directed that in the meantime a letter be written to each Urban and Rural Sanitary Authority in the County stating that in the opinion of the Council no delay should take place in putting the Act into operation, and asking them to consider the question and be prepared to consult with the Council early in 1895, as to the Hospitals it was necessary to erect.
- (3) Also in October, 1894, the County Medical Officer of Health was instructed to report to the Public Health Committee as to the existing Isolation Hospitals in the Administrative County and what further provision should, in his opinion, be made for establishing additional Isolation Hospitals.

The Report of the County Medical Officer of Health on the existing Isolation Hospitals in the Administrative County, &c., was presented to the Public Health Committee on January 25th, 1895; when it was resolved (1) that the said Report be referred to a Sub-Committee, consisting of Messrs. E. J. Sidebotham, J. W. Smith, W. Hodgson, J. Atkinson, D. Graham, R. O. Orton and J. Thompson, for their consideration and Report after conferring thereon with the County Medical Officer of Health; and (2) that the Clerk forward a copy of the Report of the County Medical Officer of Health to each of the Urban and Rural District Councils in the Administrative County, with a request that they will furnish the Sub-Committee with their observations thereon

for the information of the Public Health Committee, and that the Clerk also forward a copy of such Report to the Medical Officer of Health of each Urban and Rural District Council in the County.

It was some time before all the Urban and Rural Districts had considered the Report of the County Medical Officer of Health, and furnished to the Sub-Committee their observations thereon. However, at a meeting of the Isolation Hospitals Act Sub-Committee on September 26th, the Report of the County Medical Officer of Health on the existing Isolation Hospitals, &c., was considered, and in connection therewith the Clerk submitted the observations of the Urban and Rural District Councils thereon, together with a plan prepared by the County Surveyor showing the Districts suggested by the County Medical Officer of Health in his Report. The Clerk also read a copy of a communication addressed by the Town Clerk of the City of Chester to the Tarporley Urban District Council and the Chester and Wirral Rural District Councils, and certain Councils in the County of Flint, inviting such Councils to appoint representatives to a conference to discuss the advisability of establishing a Joint Isolation Hospital at Chester.

After some discussion it was:—

**RESOLVED**—“That the plan, together with the detailed observations of the several Urban and Rural District Councils and the communication from the Town Clerk of the City of Chester, be handed to the County Medical Officer of Health, and that, having regard to the before-mentioned observations of the Urban and Rural District Councils, he be requested to prepare and submit to a future meeting of this Sub-Committee a tentative scheme as to the manner he suggests the Act should be put into operation, with a view to the Sub-Committee deciding the following points, viz. :—  
(a) What Isolation Hospital Districts in the County they should recommend the Council to create and the boundaries thereof, and (b) to what extent, if any, they should recommend the Council to grant financial assistance towards establishing Isolation Hospitals in such Districts or the maintenance thereof when erected.”

The Sub-Committee also:—

**RESOLVED**—“That the Clerk obtain information from other Counties as to what action, if any, is being taken by them for putting the Isolation Hospitals Act, 1893, into operation.”

Copies of the Resolutions, as above, were furnished to the County Medical Officer of Health, together with the plan, the detailed observations of the several Urban and Rural District Councils, a copy of the communication

referred to from the Town Clerk of the City of Chester, and also a return of the information obtained from other Counties as to what action, if any, is being taken by them for putting the Isolation Hospitals Act into operation.

The County Medical Officer of Health also received a copy of an Official Memorandum signed by the Medical Officer of the Local Government Board, "On the provision of Isolation Hospital Accommodation by Local Authorities." This Memorandum was not issued when the County Medical Officer of Health prepared his Report on the existing Isolation Hospitals in the Administrative County, &c.

Having carefully considered these various papers the County Medical Officer of Health prepared a Supplementary Report on the Isolation Hospitals in the Administrative County and what Further Provision should be made for additional Isolation Hospitals. This Report was dated December 28th, 1895, and was not presented till January, 1896.

**The Infectious Diseases (Prevention) Act, 1890.—**

This Act, except as regards London, where it has been in force since December, 1890, only comes into force after being formally adopted by the Local Authority. It gives increased control over the milk supply and increased powers of disinfection. It forbids the throwing of infectious rubbish into ashpits, &c. It forbids the retaining of an infectious human body longer than 48 hours, elsewhere than in a public mortuary or a room not used as a living, sleeping or work-room; and the removal of the body of any person dying of infectious disease in hospital, except for being buried forthwith. It empowers a Justice to order an infectious patient in a Hospital for Infectious Diseases to be detained therein until free from infection, if it can be shown that he is without proper means of isolation and lodging elsewhere. It requires the Authority to provide free temporary shelter with the necessary attendance to the members of any families who have been compelled to leave their houses to enable them to be disinfected by the Authority.

This Act has been adopted by a few of the Local Authorities in the County, but there is no reference in any of the Reports to its being made use of except in the Report from the Borough of Crewe. In this District the Medical Officer of Health puts in force Section 5 of the Act in order to obtain the cleansing and whitewashing of rooms after they have been disinfected.

At Middlewich, on December 16th, the Medical Officer of Health advised the District Council to adopt this Act. The family of a local dairyman had become infected with scarlatina, and some difficulty was found in taking those measures which it was felt the occasion demanded. It was pointed out that Section 4 of this Act would give the

District Council power to order a dairyman to discontinue supplying milk in cases similar to the above, and that other Sections would confer useful powers not otherwise possessed. The matter was under discussion early in 1896.

**The Public Health Acts Amendment Act, 1890.—**

This Act is also an "adoptive" one, but it does not apply to London. It gives power to regulate public sanitary conveniences, such conveniences used in common by occupants of two or more houses, or provided for factories or workshops. It empowers the Urban Authorities to make bye-laws for keeping W. C's supplied with sufficient flushing water, as to structure of floors, hearths and staircases, and the height of dwelling-rooms, as to paving yards and open spaces about houses, and as to providing new houses with secondary means of access for removal of refuse, &c., as to times for removal through the streets of offensive matter, and as to vessels and carts employed being properly constructed and covered. It forbids rooms over privies, middens or ash pits being used as living or sleeping rooms; and the erection of new buildings on foul sites. It permits all articles of unsound food, even those already sold, to be seized and condemned, or condemned before seizure. Finally under this Act the occupier of a registered slaughterhouse convicted of having sold or had for sale unsound meat, may have his license revoked.

In the Report from Marple it is stated that the District Council have adopted this Act. During 1893, the Act was adopted by the Runcorn Rural Authority so far as it relates to rural districts; and in 1892 it was adopted by the Chester Rural Authority. It has also been adopted by the Borough of Crewe, and by the Winsford Urban Authority. However, neither this Act nor the Infectious Disease (Prevention) Act have been generally adopted, and where they have been adopted there is little evidence that the increased powers acquired have been used.

**The Private Street Works Act, 1892.—**This Act is also an "adoptive" one. It may be adopted in an Urban Sanitary District in England, and the Local Government Board may extend the Act to any Rural Sanitary District or part thereof. When the Act is adopted any street or part of a street not sewered, levelled, paved, metalled, flagged, channelled, made good and lighted to the satisfaction of the Authority, may be sewered, levelled, paved, metalled, flagged, channelled, made good or provided with the proper means for lighting by the Authority, the expenses incurred in executing such private street works being proportioned on the premises fronting, adjoining, or abutting on such street or part of street, the sums apportioned being recoverable summarily or by action, or in the same manner as private

improvement expenses are recoverable under the Public Health Act, 1875. Also the Authority may, if they think fit, contribute the whole or a portion of the expenses of any private street works, when all or many of the private street works mentioned have been executed in a street or part of a street, the Authority may, by notice fixed on such street, &c., declare the whole of such street or part of street to be a highway repairable by the inhabitants at large. And if any street is now or shall hereafter be sewered, levelled, &c., to the satisfaction of the Authority, then, on the application in writing of the greater part in value of the owners of the houses and land in such street, the Authority shall, within three months, by notice put up in such street, declare the same to be a highway repairable by the inhabitants at large.

The Northwich Urban District have adopted this Act, and the Local Government Board have been appealed to for extension of the Act to Stockton Heath, in the Runcorn Rural District. The Medical Officer of Health for Bollington thinks the Act would be useful, and recommends his Authority to adopt it. Why this Act is not more generally adopted is scarcely explicable.

**Disinfection by Steam.**—An efficient apparatus for disinfecting by steam the clothing, bedding, &c., of infectious patients is a necessary part of the equipment of a Sanitary Authority. Yet a large majority of the Authorities in the County have taken no steps to provide any apparatus for this purpose. At both Hyde and Wallasey there is an excellent apparatus placed conveniently near the Isolation Hospital. During 1892 the Runcorn Rural Authority obtained a steam disinfecter, which was found of much use during the prevalence of small-pox in 1892-93. It is erected on land contiguous to the temporary hospital for small-pox. However, during the whole of 1894, when there were many outbreaks of scarlatina, the apparatus was apparently locked up, owing to “the absence of any arrangements, sanctioned by the Authority, to utilize their steam disinfecter.” The site where it is placed is not very accessible, and it is still very little used. The apparatus (Washington Lyon’s) provided for Crewe Borough in 1894, was much in use during 1895. It was employed almost daily during the last six weeks of the year; and on two occasions for neighbouring Authorities, a charge being made. A similar apparatus erected at Altrincham, in 1894, also works satisfactorily.

In the Reports from twelve districts the need of an apparatus for efficient disinfection of mattresses, &c., is mentioned.

The bedding and clothing should be fetched and delivered by the Authority’s officers, in light covered vans provided for the purpose. One van should always be used for collecting, the other for delivering, and to avoid all

possible risk of the one being mistaken for the other it is convenient to have the collecting van painted red and the delivering van painted green.

The Medical Officer of Health for Hyde complains that his Authority have provided no van and asks for one. When the Authority has but one van it is usual to use this for collecting, and to require people to fetch their things after disinfection

**Disinfection of Premises.**—In several Districts carbolic fluid and packets of carbolic powder are given to those who apply for disinfectants at the Inspector's office. However, the disinfection of rooms which have been occupied by infectious patients appears ordinarily to be done or supervised by the Authority's officers; and what these officers mainly trust to is fumigation by means of burning sulphur. Now it is worth while asking—Does this “stoving” leave the room much as it was before? If the ceiling be lime-washed, if the floor and woodwork be properly washed with carbolic acid and soap and water, and if the walls be stripped and cleaned, the room will be efficiently disinfected. Whether the room has or has not been fumigated with burning sulphur makes very little difference. Indeed the fumigation may be mischievous, by giving a false sense of security, and leading to the neglect of really efficient disinfection.

Disinfection by burning sulphur having been tried in the balances and found wanting, it is pleasant to read in the Report from the Borough of Crewe, that the method of house-disinfection there “has undergone an entire revolution during the past year.” The Authority, on the advice of their Medical Officer of Health, have purchased an equifex spray-producer, and with this a solution of corrosive sublimate (1 part in 1000) is thrown in a fine spray over the walls and ceiling of the room to be disinfected. Wherever house-disinfection has been required since November 20th it has been done in this way. In all 81 rooms have been thus disinfected.

**Systematic Inspection.**—Probably it is the Inspector's first duty to give prompt attention to nuisances complained of by tenants or others, or discovered on infected premises. Scarcely of secondary importance, however, is the duty of systematic house-to-house inspection of the district so that the sanitary condition and surroundings of every house may be known, a record kept, and defects remedied. This duty is not neglected, indeed many Medical Officers of Health in their Reports recognise its necessity, still it does not appear to be carried out as thoroughly as it should be. Doubtless house-to-house inspection is made “when time permits,” but if in any district it only occasionally happens

that time permits, the reasonable conclusion is that an additional Inspector is required. By systematic inspection many grave defects are brought to light and remedied that would never be complained of.

**Abatement of Nuisances.**—The word “nuisance” as defined by the Public Health Act, 1875, includes so many things and conditions, that it may be said almost every form of pollution of air, ground or water constitutes a nuisance. Some of these are made the subject of complaint to the Medical Officer of Health or Inspector, some they discover for themselves. In either case each nuisance is entered in a book and an attempt made to obtain its abatement. The nuisances are due to various causes, among others insufficient drains and sewers, defective drains and sewers, obstructed drains and sewers, ditches carrying sewage, defective traps, waste pipes untrapped or badly arranged, waste pipes directly connected, broken water-fittings, no supply or an insufficient supply, soil pipes unventilated or ill-ventilated, rain pipes directly connected, defective rain conductors or roofs, damp walls, dead rats and mice under floors, offensive accumulations of refuse, defective ashpits, privies or W.C.’s, yards lodging foul water, offensive ponds, dirty or overcrowded houses, animals or birds so kept as to be a nuisance, and excessive smoke from chimneys. Nuisances thus caused are abated without formal notice, or on formal notice, or after proceedings. The practice in different Districts varies greatly. In some the abatement of a large number of nuisances entered on the books is effected without formal notice, in others a formal notice is served in nearly every case. Further proceedings are rarely necessary in any of the Districts.

The work of obtaining the abatement of nuisances certainly seems to have full attention from Medical Officers of Health, while it very properly occupies a large share of the time of Sanitary Inspectors. As regards 20 Districts, Reports are submitted by the Inspectors giving particulars of the nature of the nuisances dealt with, and occasional notes of difficulties or failure. These Reports are all interesting. If they were drawn up on a uniform plan, and a Report were sent in by every Inspector in the County, the information supplied would be most useful.

Perhaps the most noteworthy nuisance during the year was from the deposit of very offensive foul-smelling mud and rubbish which had gathered in and around the disused vessel “Noah’s Ark,” on the beach at New Brighton. It was obvious that the only way to abate the nuisance and prevent it from recurring was to remove the vessel. Notices to do this were served on the owner and not complied with, so the Authority took proceedings against him; the outcome being that the Magistrates made

an order for the abatement of the nuisance within two months and ordered the defendant to pay £3 11s. 6d. A little of the timber was removed, but practically nothing done to abate the nuisance. The defendant was again summoned on two different occasions, and fines imposed amounting to upwards of £8 for neglect to comply with the order of the court. Eventually, the Wallasey District Council, being of opinion that the defendant was practically unable, from want of means, to carry out the necessary work, themselves abated the nuisance.

Very little seems to be attempted and still less accomplished as regards the abatement of smoke nuisances. In some districts where many hundreds of other nuisances are reported there is but one smoke nuisance or none. However, it is not always the Inspector who is to blame, for in Stalybridge 119 smoke observations were taken, but the Sanitary Committee had recourse to no action in the matter. Creating a smoke nuisance seems to be regarded as quite a venial offence by some District Councils and Magistrates. Yet the presence of smoke implies the presence of noxious vapours (sulphurous acid mainly), and smoke-polluted air exercises a very distinct influence on the death-rate.

**Examining Houses on Request.**—It may be remembered that in November, 1893, public notice was given in the Borough of Crewe that anyone might have his house examined to ascertain its sanitary condition, free of charge, on making application to the Sanitary Department. The object was principally to enable new-comers to the town to ascertain the condition of any house they might contemplate occupying. Several householders availed themselves of this offer in 1895.

**Ratable Value of Houses.**—In the Crewe report is a note of the value of houses on the rate-book. It shows that in 1895, 78 per cent. of the houses in the Borough were rated under £10 per annum, and 95 per cent. under £20 per annum. If similar information were furnished by other districts it might throw some light on the incidence of disease and mortality, and aid in the solution of some health problems.

**Ashpits, Middens, &c.**—The storing of refuse in receptacles in close proximity to inhabited houses is an insanitary practice. The system adopted in many towns, where each house is provided with a dust-box or dust-pail, to be emptied by dustmen early every morning, is a great improvement on the ashpit system. When, however, privies and ashpits are combined, and every kind of domestic refuse is deposited in the one receptacle, its proximity to a dwelling-house is even more objectionable.

Yet these "compound middens" (they go by various names) are very common throughout Cheshire, and in Rural Districts and some Urban Districts represent the sanitary conveniences ordinarily provided. The problem that Local Authorities and their responsible advisers have to solve is how to improve the compound middens, and reduce to a minimum the nuisance therefrom. There is little doubt the water-carriage system is the most satisfactory, where practicable, and consequently the best way of altering the compound midden is to convert it into a w. c., and small dry ashpit. Many such conversions were effected in 1895,—in the Borough of Crewe there were 141, in Runcorn Urban District there were nearly 100, and in Wallasey Urban District nearly 100. In localities where the w.c. is not practicable, the old pit should be filled up to the ground level, the bottom being paved and the walls cemented over inside. The work of emptying will be made easier, and it will be more likely to be done regularly and systematically, if movable receptacles are provided. Modifying the compound middens in various ways is continually in progress as part of the work of nuisance abatement. In requiring a change the great point is to be sure that the change specified is the best under the circumstances, and this is far from easy.

In many Urban Districts of late, when compound middens have been converted, slop-closets in place of ordinary W.C.'s have been erected. The slop-closet is flushed with waste water by means of a tumbler, and in Districts where many are in use they appear to work satisfactorily. They seem well adapted to localities where the supply of water is deficient and where it would be difficult to procure water for the service-cisterns of ordinary W.C.'s.

With all that has been done there remain a large number of ill-constructed ashpits and middens, and not a few leaky cesspools, which need the prompt attention of Local Authorities.

**Refuse Removal.**—Quite as important as the proper construction of ashpits, &c., is the systematic removal of their contents. In rural places what is in the midden and cesspool is commonly disposed of on a garden or field belonging to the house, or awaits the convenience of a neighbouring farmer, who removes the stuff at his own cost or even pays a trifle for it. In Townships where W.C.'s are in general use, the ashpit refuse is practically valueless, so that its removal has to be paid for and often land has to be found on which to tip it. Certainly it is one of the duties of the Local Authority to arrange for this work being regularly done and at short intervals. In this County the Local Authorities which have undertaken the

work have commonly contracted for its being done under the supervision of the Sanitary Inspectors. The work is probably better carried out when done by the Authority's men, with the Authority's appliances, without the intervention of a contractor. Of course where pail-closets are provided there is more than usual need for regular and frequent emptying, and the pails should be cleansed and charged with a disinfectant as they appear to be at Northwich.

Cesspools should obviously be emptied at night and if practicable pails also. As to frequency, all Medical Officers of Health are agreed that the emptying should be done at short intervals, but as a fact the pits are not ordinarily emptied till they are full or nearly full. This is all that "well attended to" or "fairly well attended to" commonly means. The Medical Officer of Health of the Chester Rural District advises that the emptying should be done weekly or fortnightly, but it is very difficult to insure this being done. Pails should certainly be emptied at least once a week, but as regards middens a monthly emptying will satisfy most Authorities. The Medical Officer of Wallasey, where arrangements were made for emptying every six weeks, reports that the collection of night-soil and refuse has not been satisfactory in spite of the precautions taken, and the appointment of an Inspector whose sole duty it was to supervise it. The District Council eventually resolved to do the work with their own men and plant, instead of employing a contractor. Courts and back passages in this District are still unscavenged. Whether the rule be to empty the ashpit or midden once a fortnight or once in six weeks, it should of course be emptied at any time on complaint that it is full.

As regards the cost of this work, though the total sum paid is given by many Medical Officers of Health, it is difficult to compare the outlay in one district with the outlay in another, without full particulars of the work done and the way it is done. In one district (Sandbach) £111 7s. 10d. was received for the saleable portion of the stuff collected—but this must be an unusual experience anywhere. At Crewe, where there are receptacles of all kinds, the cost of emptying was 16·3 pence per head in 1893. In 1894, the cost was reduced to 14·6 pence per head, and in 1895 to 14·1 per head. Though the cost is being reduced, the work is being more satisfactorily done year by year. In the Borough of Macclesfield the annual cost of refuse removal is reported to be 11½d. per head of the population. It is hardly fair to compare the cost of refuse removed in different towns, so much depends upon the distance the material has to be carted before it can be tipped. In the Northwich Urban District some of the

house-refuse is allowed to be used for filling up holes occasioned by subsidence—an obviously insanitary practice which should be stopped. Paying a little more for removal is wiser than depositing the refuse on land which may soon be used for building sites. Fourteen or fifteen pence may not be too much to pay for this work provided it be properly done. At Crewe the carts for carrying the dry ashes as well as the night-soil carts are covered. The comfort of the night men is also considered, and they are provided with hot coffee when at work.

Another duty of the Authority, in reference to refuse-removal is to arrange tips in suitable situations sufficiently remote from inhabited houses, and providing such tips is often a difficult task. Privy-refuse should of course be used promptly on the land. In the Chester Rural District nuisances have been caused by persons removing this refuse, who have no convenience for using it.

**The use of Pails containing Acidulated Peat**, a full account of which was given in the Annual Report for 1894, is still in practice in the Borough of Congleton. During 1895, there were 5,070 loads of night-soil removed, and 321 tons of peat manure manufactured.

Sulphuric acid has also been used effectually at the sewage farm at Crewe, at which "no small nuisance" had been experienced. The dry ashes are screened, and the coarser portion burned in a boiler at the pumping station in lieu of slack. The finer portion is sprinkled with about 10 per cent of strong sulphuric acid, and afterwards incorporated with night-soil. Little or no smell results and a far better manure is produced than before the acid was used.

**Destructors.**—The best way of dealing with midden-refuse is by means of cremation in specially constructed furnaces known as destructors. The process is cleanly and simple. The refuse is packed into large close furnaces through holes at the top and burnt. That which is incom-bustible, after being subjected to an intense heat for a long time, is drawn at the lower part of the furnaces in the form of vitrified cinders or slag, and this as soon as cool is either thrown into a mortar-mill and ground (taking the place in the mortar of clean sharp sand) or used for path making or some similar purpose. Any iron-waste drawn with the slag is sorted out and finds a ready market.

Very little was done in 1895 towards providing destructors. In Wallasey a decision was come to in 1892 to provide one, but it was not erected and ready for use until July, 1895. Its successful working has been interfered with by the irregular manner in which the contractor has delivered his loads, especially at night. The defective

condition of Gorsey Lane, where it is placed, has also proved a source of difficulty, impeding cartage. The six cells provided are to be supplemented by six more, as the existing ones cannot deal with all the refuse of the District. In the Report from Macclesfield Borough, and in the Report from Dukinfield, the Authority is advised to provide a destructor.

**Sewering.**—The work of draining and sewerage has been carried forward in almost every part of the County in 1895. At Congleton Borough 7 streets were sewered and 117 houses re-drained throughout. At Macclesfield Borough the execution of the main-drainage works was commenced on October 7th, and by the end of the year, 1,936 yards of sewers had been laid. Many of the sewers replaced appear to have been very imperfect and the ground through which they passed badly contaminated. At Stalybridge the Corporation are engaged in carrying out an important scheme by which all the sewage will be delivered for treatment at a sewage farm instead of being turned into the river. The Medical Officer of Health for Ashton-upon-Mersey strongly advises increasing the size of the beds where the sewage is treated. At Lower Bebington new sewers were laid in Sea View South and Cleveland Place, and the sewer in rear of Woodhead Street was reconstructed. The main drainage has been completed at Romiley as far as Birch Vale. The length between the outfall works is being proceeded with. Sixty-eight houses have been connected with the finished portion, and notices have been served on the owners of the rest of the houses in the locality to connect. The District Council have completed their plans for the separate sewerage of the different portions of Bredbury and Romiley and these plans are now before the Local Government Board. The whole of the sewage is to be treated at one outfall works. At Cheadle and Gatley there is still one part of the District in which the new sewer has not been laid. Three streets were sewered in 1895, and the houses abutting on them connected. The sewage outfall works are practically finished and will be very soon ready for use. Dukinfield is with Stalybridge taking its sewage to Bradley Hurst Farm for treatment. There has been considerable delay through these two Districts trying to induce Audenshaw (in Lancashire) to join with them. This Audenshaw has now agreed to do, and the plans for the joint scheme have been completed and sent to the Local Government Board. At Hollingworth the main sewer has been laid through the Hollingworth portion of Mottram Moor, Market Street, Green Lane and Woolley Lane, on to the outfall works in the Hague now being constructed. At Hoylake and West Kirby 466 yards of sewers have been relaid. At Knutsford

the filters have been remodelled, and it is recommended that the surface water from the two main streets should be diverted from the main sewer, which would give relief to the precipitation tanks and filter beds. The sewage from Cross Town which has been running direct into the Moore Ditch has been made to deliver into the main sewer. At Marple the outfall works were completed, and the filter beds are working satisfactorily. The new main sewer from Rose Hill to Hawk Green was also completed, and nearly all the property on its line of route has been connected therewith. At Mottram a main sewer has been laid through Market Street, Mill Brow, Well Row and Summer-bottom, to the outfall works at Hodge Fold. The outfall works are now completed, but the connections from the various properties *en route* have not yet been made. The Local Government Board have been applied to for a further loan to complete this portion of the work. At Northwich, as usual, many lengths of sewers displaced through subsidence were relaid. The sewerage of Little Neston, in the Neston and Parkgate District, is now being completed. Bull Hill sewer (224 yards in extent) has been laid, and the sewer up the village to Lee's Lane has been relaid for a distance of 80 yards. At the end of the year men were still working on the Mellock Lane sewer. In a very short time the new sewage scheme at Sale will be in working order. A scheme for completing the drainage of Sandbach has been prepared and approved by the Local Government Board, and land has been secured for dealing with the sewage, however no progress is reported. The sewerage of the town of Tarporley has been completed, but the sewers cannot be fully utilized till works for purification are ready. These are about to be undertaken. At Wallasey much has been done in reconstructing old and defective sewers. At Wilmslow the southern drainage scheme continues to work well, the sewers in Chapel Lane and Oak Lane are finished, and progress is being made with the northern drainage scheme. At Yeardsley-cum-Whaley a proper system of drainage is still required. In 1895 the District Council agreed with two neighbouring Authorities to obtain a Report upon a joint scheme for sewerage such parts of the district as could be most conveniently dealt with at one outfall.

In the Rural Districts, also, sewerage and sewage work seem to have full attention, but much remains to be done. In the Bucklow Rural District, the new sewers at Northenden were certified complete and began work in April, and new tanks have been built and completed at the Timperley outfall. Plans of a new outfall sewer, and of land for the necessary outfall works, for Ashley Heath, Hale, are approaching completion. Of the four sewage

works for which this District Council is responsible, the analysis of effluents showed fairly satisfactory results except in the case of the Hale works, and search is being made there for the cause. In the Chester Rural District the arrangements for the purification of sewage at Eaton have been commented on favourably by Dr. Bruce-Low, Medical Inspector of the Local Government Board, and exactly similar arrangements have been made at Eccleston. Plans for the necessary sewage works have been adopted by the Disley District Council, and sanctioned by the Local Government Board. This will meet the requirements of the village of Disley, but the sewage of Furness Vale has yet to be dealt with. In the Macclesfield Rural District a scheme is being arranged for seweraging the village of Poynton. A scheme for seweraging the village of Prestbury has also been prepared and negotiations entered into with the Macclesfield Corporation for the reception of the sewage of Prestbury village and a portion of Tytherington into the Corporation outfall sewer. In the Nantwich Rural District little has been effected as to any general system of sewerage in the larger villages, and in some instances this is much required. The new main sewer at Audlem is working well. The sewage in the tanks at Calveley is still being treated with alumino-ferric. At Lostock Gralam, in the Northwich Rural District, the new sewage works have been completed, and the improved system of sewage purification adopted gives satisfaction. In the Stockport Rural District, a scheme for the drainage of Bramhall has been decided upon, and 100 yards of sewers were laid. In the Tarvin Rural District a scheme has been prepared for dealing with the Tattenhall sewage, and plans have been sent to the Local Government Board.

**Flushing of Sewers and Drains** does not appear to be done at all generally, yet it is most useful work and will well repay time and money spent on it. In several of the reports are references to the matter. At Lower Bebington a good portable tank is used for flushing, at Neston and Parkgate the work is done weekly from fixed tanks, and also from a portable tank constructed by the Surveyor. At Alderley Edge another automatic flushing tank has been put down. At Bromborough the sewers are flushed twice a week; at Hoylake and West Kirby they are flushed weekly during the summer and fortnightly during the winter, but one sewer is flushed weekly during the whole year. At Higher Bebington sewers are flushed as required, and at Tattenhall the sewers were flushed during the dry weather. In Wirral Rural District, the sewers at Eastham, Heswall, and Ellesmere Port are flushed regularly, and at Upton when required. At Hoole and Lymm flushing is regularly attended to. At Hazelgrove two

automatic flushing chambers have been constructed. At Alsager a more efficient system of flushing has been ordered. At Wallasey the systematic flushing of sewers and house-drains is carried on throughout the year. Special gangs attend to houses where infectious disease has been notified.

**Sewer Ventilators.**—From time to time complaints are made of effluvia from sewer ventilators. This is usually due to there not being sewer ventilators enough, or to the sewers being “sewers of deposit.” If sewers were systematically flushed there would seldom be ground for such complaints. In Sale, which seems to be specially liable to suffer from this nuisance, there was very little complaint during 1895. At Crewe there were many complaints, as in former years, of foul smells from the street level man-hole ventilators. At the end of 1893 it was decided to make certain alterations in the floors of about 300 of these man-holes, doing away with the catch-pits and allowing the sewage to flow continuously along the sewer. This work has not yet been carried out. At Hyde many sewers still require ventilation so as to prevent the escape of foul air from man-holes. At Knutsford, to abate nuisances from effluvia, 3 man-holes were sealed up, and 2 ventilating shafts fixed to the main sewer. At Hazelgrove 5 ventilating shafts have been built. In Bollington, a case of typhoid fever was attributed to foul exhalations from grids near the house where it occurred.

**Pollution of Rivers and Streams.**—A few notes in some of the Reports refer to this, and are not unimportant. The river Tame is again referred to as nothing but an open sewer. In the Report from Wirral are particulars of the steps taken to remove pollution from the Spital Boundary Brook. The District Council did the required work at a cost of £150, and this was repaid by those responsible for the pollution. Complaint has been received by the Macclesfield Rural District Council of the pollution of the Poynton Brook, and they are taking steps to prevent further pollution. During 1895, the Malpas Rural District Council received fresh complaints of the pollution of Cuddington Brook, and steps were taken to remedy the worst nuisances arising therefrom.

**The Rivers Pollution Prevention Act, 1893.**—It may be well here to draw attention to an Act passed in 1893, with the object of strengthening the Rivers Pollution Prevention Act, 1876. It enacts that “where any sewage matter falls or flows, or is carried into any stream after passing through or along a channel which is vested in a Sanitary Authority, the Sanitary Authority shall for the purposes of section three of the Rivers Pollution Prevention

Act, 1876, be deemed to knowingly permit the sewage matter so to fall, flow, or be carried."

**Dwelling-Houses unfit for Habitation.**—Not much seems to have been done in the Administrative County, during 1895, in closing houses unfit for habitation or rendering them habitable. In his Report for the Borough of Hyde, the Medical Officer of Health writing of Fernaley Court, records his opinion that this Court is in so unsatisfactory a state that it is unfit for human habitation and cannot possibly be made fit. He adds that it ought to be closed at once, yet it is not closed. In the Borough of Macclesfield four houses were reported as unfit for habitation and ordered to be closed. Another house was closed voluntarily on the suggestion of the Medical Officer of Health. In the Borough of Stalybridge 13 houses in bad sanitary condition were put into proper order under the direction of the Borough Surveyor. In Cheadle and Gatley certain cottages very damp and dirty were ordered to be closed. In Middlewich a block of six houses were certified as unfit for habitation, and the steps to be taken were under consideration at the close of the year. In the town of Runcorn 3 houses were closed, and in Wilmslow 2 houses were closed. In Bucklow Rural District 7 houses were reported as dilapidated and unfit for habitation. In the Disley District a house was closed. In the Macclesfield Rural District 2 houses were certified as unfit—one has since been re-roofed and put in order, the other has been vacated and is to be pulled down. In the Malpas Rural District several houses reported as unfit for habitation have been dealt with and two cottages have been pulled down. In the Nantwich Rural District 4 houses were closed. Several houses in the Stockport Rural District, and some dilapidated cottages in the Runcorn Rural District were removed.

**Overcrowding.**—Judging by the Reports there is little overcrowding. In most of the West Cheshire Districts it is noted that cases are occasionally reported, but they are infrequent. In Altrincham there were 5 cases, in Cheadle and Gatley 2, in the town of Northwich 6 cases, in Bucklow Rural District 6 cases, and in Congleton Rural District there was 1 case. Exaggerated statements have been made as to the overcrowding at Wallasey. Each case reported was investigated, and in the few instances where it was found to exist it was in houses sub-let in apartments. The experience at Wallasey is that overcrowding is an offence difficult to deal with, as it is hard to prove and there is no ready way of obtaining good evidence.

**The Housing of the Working Classes Act, 1890.**—Houses unfit for human habitation can be generally more

satisfactorily dealt with under this Act than the Public Health Act. This Act consolidates and amends many previous Acts on the same subject. Its object is to secure the closure of insanitary dwelling-houses, and when necessary their demolition and replacement by sanitary dwelling-houses. It is applicable throughout the United Kingdom.

**Part 1—Unhealthy Areas.**—It is made the duty of the Medical Officer of Health to officially inform his Authority when he finds (*a*) any houses, courts or alleys, are unfit for human habitation, or that (*b*) the narrowness, closeness, and bad arrangement, or the bad condition of the streets and houses, or groups of houses within an area, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defect, make the given area dangerous or injurious to the health of the inhabitants of the area, or of their neighbours: and that the evils connected with such houses, courts, or alleys, cannot be effectually remedied otherwise than by an improvement scheme for their re-arrangement and re-construction. And the Authority, if satisfied of the truth of the information thus given them, and of the sufficiency of their resources, are required to make a scheme for the improvement of the area. The Medical Officer of Health is required on complaint from ratepayers to report on the condition of any area complained of as being unhealthy. The improvement scheme must provide for the re-housing of the members of the working classes displaced by it. In assessing compensation to be paid owners of houses in the condemned area, deductions are made for sanitary defects, and where a house cannot reasonably be made fit for human habitation, only the value of land and building materials need be paid.

**Part 2—Unhealthy Dwelling-houses.**—It is made the duty of the Medical Officer of Health of every District to officially inform his Authority of any dwelling-house which appears to him in a state so dangerous or injurious to health as to be unfit for human habitation; and he may be called upon on complaint of householders to report on the condition of any house. The Authority are required to cause inspections to be made from time to time of their District, to ascertain whether any dwelling-house is unfit for human habitation, and they must forthwith take the necessary proceedings, before a Justice, to obtain a closing order on receiving a report of a house unfit from their Officer. When a closing order has been made, and the Authority are of opinion that the dwelling-house has not been rendered fit for human habitation, they may order the demolition of the building, time being given the owner to attend and state his objections. It is also made the duty

of the Medical Officer of Health to officially inform his Authority of "obstructive" buildings. If any building in his District, though not in itself unfit for human habitation, stops ventilation, or otherwise conduces to make other buildings unfit for human habitation, or prevents proper measures being taken to abate nuisances, it is his duty to report the facts to his Authority, who shall order the demolition of the buildings after compensating the owner.

**Part 3—Working Class Lodging-houses.**—By this part of this Act, which is "adoptive," power is given to Local Authorities to build lodging-houses, dwelling-houses, or cottages for the working classes, or to purchase or lease those existing, and make bye-laws for their regulation and manage them. Power is also given to Local Authorities to acquire land for the purposes of this part of this Act.

**The Housing of the Working Classes Act, 1894.**—This explains the provisions of Part 2 of the Housing of the Working Classes Act, 1890, with respect to powers of borrowing under a scheme for reconstruction.

It is surprising how little action has been taken under the Act of 1890. In the few instances in which unhealthy dwelling-houses were closed in the County in 1895 (already referred to) they appear to have been closed by means of an order under Section 97 of the Public Health Act.

The Medical Officer of Health for Crewe suggests that the Corporation of Crewe should establish a Municipal Lodging-house of say 100 beds. He believes it would prove self-supporting, and points to the model lodging-house built and managed by the Corporation of Salford, providing 285 beds, which is a financial success.

**New Houses and Building Bye-Laws.**—The Medical Officers of Health in many Districts supply information as to the number of houses built, as some gauge of the progress made. Erecting new dwelling-houses is obviously the one effectual remedy for overcrowding, and if good building bye-laws are in force in the district, and the houses are well-built and drained, and fitted with proper sanitary appliances, the Local Authority is thereby placed in a better position for dealing with insanitary property. On the other hand if there are no good building bye-laws in force, and each builder is suffered to do that which is right in his own eyes, new buildings instead of being a source of strength are a source of weakness in a District.

In Dukinfield, where the bye-laws in use were adopted in 1857, the Committee appointed in 1894 to arrange bye-laws up to date, have done so and their draft has been submitted to the Local Government Board for approval. At Knutsford, bye-laws appear to be in course of preparation, and the Inspector reports that his position will be

strengthened when they are passed. At Bollington the bye-laws in use have not been altered since the old Local Board was first constituted, and need careful revision. At Neston and Parkgate the model bye-laws of the Local Government Board, with respect to new streets and buildings, have been in force since the latter end of 1893. These bye-laws were adopted a little earlier in the Chester Rural District. Building bye-laws have been for years in force throughout the more populous parts of the Wirral Rural District. During 1894 these were carefully revised by Mr. Priest (Messrs. Beloe and Priest) in conjunction with the Medical Officer of Health, at the request of the Authority. The revised bye-laws are or soon will be in force throughout the district. In the Bucklow Rural District, where plans for 207 new buildings were passed during the year, a revised set of bye-laws is much needed, and a Committee has been appointed to take the matter in hand. The Nantwich Rural District has had urban powers in respect of new buildings for a number of years, and since these powers were conferred no less than 1708 plans for new buildings have been examined and passed by the Surveyor. In Northwich Rural District 80 new buildings were completed during the year. In Macclesfield Rural District 18 plans for new buildings were passed, in Macclesfield Borough there were 16. There were 76 in Hazel Grove, 21 in Cheadle and Gatley, 17 in Sandbach, 16 in Hoole, 41 in Hoylake and West Kirby, 5 in Lymm, 4 in the town of Nantwich and 5 in Disley District. On the whole it is obvious that building operations have not been undertaken extensively in 1895. In one instance only does it appear that legal proceedings were taken for a breach of the building bye-laws. This was in the Runcorn Rural District, and a conviction was obtained.

**New Streets.**—The work of making new streets proceeds but slowly. In Hoole, Hoylake and West Kirby, and a few other "residential" districts fair progress is made, but generally little seems to have been done.

**School Accommodation** is a subject that may well come within the observation of the Medical Officer of Health, yet it is referred to in very few Reports. In the Borough of Crewe there is accommodation for 6716 children. The Medical Officer of Health visited all the schools and has no doubt that there is now frequent overcrowding in some schools, but new schools approaching completion and additional rooms at two existing schools will accommodate about 500 more children. During October the schools in the Northwich Urban District were inspected by the Medical Officer of Health. In several there was no proper cloak room. It was also pointed out

that in many of the schools (new as well as old) the rain-spouts were directly connected to the drains, and that foul air from the drains and sewers was thus delivered round certain schools and into playgrounds. The Church Day Schools at Bollington have been enlarged and considerably improved. In the Report for 1893 these were reported as overcrowded and insanitary. The Medical Officer of Health for Cheadle and Gatley reports that he has inspected the elementary schools, and that during 1895 their sanitary and other arrangements were re-modelled. They now meet all requirements. The report from Marple is that the schools are clean, fairly ventilated, and have satisfactory sanitary arrangements. One of the Marple schools has been enlarged and given a good water-supply. In the Wallasey Report it is noted that great improvements have been made in the sanitary arrangements of two schools at Liscard.

**Workshops.**—Among the duties of sanitary officials is the inspection of workshops, *i.e.*, places in which manual labour is exercised by way of trade, to the exclusion of steam, water or other mechanical power.\* However there is very slight reference to workshops or their inspection in the Districts within the Administrative County. The Medical Officer of Health for the Borough of Crewe reports that there are 41 factories and 63 workshops in the town, all of which were visited during 1895. In the principal clothing factories at Crewe the workpeople are employed under the most satisfactory conditions, in large, airy, well-ventilated rooms. A special Report was presented at the close of the year on the Sanitary Requirements of the Factory and Workshop Acts, 1878-1895. The Medical Officer of Health for the Borough of Macclesfield gives a detailed list of the workshops in his district—61 in all. At Altrincham the workshops were inspected and found fairly satisfactory, except 23, which remain to be dealt with. In the Runcorn Urban District 23 workshops were inspected in 1895. In one the sanitary accommodation was insufficient and in two the ventilation was inadequate.

**Lodging-houses.**—Common lodging-houses, that is lodging-houses in which persons of the poorest class are received for short periods, and though strangers to one another are allowed to inhabit one common room, were

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\*It is important to note that workshops in which bleaching or dyeing is carried on, or letter-press printing or bookbinding, or in which matches are made, or tobacco is manufactured, are factories, even though no mechanical power be used, and *not* inspected by sanitary officials. Fustian-cutting rooms are also factories, and so are earthenware works, glass works, cartridge works, percussion cap works, metal and India-rubber works, flax scutch mills, paper mills, paper staining works and print works, though no mechanical power be used.

doubtless fairly well inspected, but the fact that every common lodging-house must be registered seems to have been overlooked in some districts.

In Crewe there are 6 registered common lodging-houses in use, together able to accommodate 105 lodgers. The Medical Officer of Health considers it impossible even with the most careful supervision, to keep these houses as they should be kept.

At Macclesfield there appear to be 20 registered common lodging-houses in use, one having been added to the register in 1895. Two of the houses were repaired during the year, and one was entirely renovated. An average of 157 persons per night were accommodated. There were 832 visits of inspection paid during the year. No proceedings were taken.

The Medical Officer of Health for Stalybridge reports that he visited all the common lodging-houses in the Borough, and found them in fairly satisfactory condition. The common lodging-houses at Nantwich have been visited daily, and occasionally midnight visits were made. The reports from Northwich town, Sandbach, Hollingworth, Wilmslow, and Winsford state that the common lodging-houses in these districts were inspected and found clean and in order. In Altrincham, Knutsford, Mottram, Sale, Tarporley and Congleton Rural Districts, the common lodging-houses were duly inspected. In the Runcorn Urban District the common lodging-houses were inspected, and 2 causes of complaint were noted. The only common lodging-house in the Nantwich Rural District has been closed. At Higher Bebington, Cheadle and Gatley, Dukinfield and Lymm, and in Bucklow Rural District, there are no common lodging-houses.

**Houses Let in Lodgings.**—Any Local Authority may, with the consent of the Local Government Board, make bye-laws for fixing the number of persons who may occupy a house or part of a house which is let in lodgings and for the separation of the sexes in a house to let; also for the registration and inspection of houses so let, for enforcing drainage and the provision of privy accommodation and for promoting their cleanliness and ventilation, for the cleansing and lime-washing of the premises at stated times, and the paving of courtyards, and for the giving of notices and taking precautions in case of any infectious disease. This is a very useful power (enabling Authorities to have control over a class of lodging-houses which could not be regulated as common lodging-houses), and to assist Authorities in making use of it, model bye-laws have been issued. Still it appears that only one district in the County (Crewe) has made bye-laws relating to houses let in lodgings. In another district (Wallasey),

bye-laws were made in 1895, and will come into force as soon as they are confirmed by the Local Government Board.

**Increase of Vagrancy.**—In the annual report for 1894 is a reference to a Conference in London, at which representatives from the Cheshire County Council attended, on the spread of disease by vagrants. Instances of disease spread in this way were noted in 1895, as they have been for some years past. A kindred subject, the increase of vagrancy in Cheshire, during the past ten years, was brought under the attention of the County Council early in 1895, and on April 10th, a conference was held between a sub-committee appointed by the Public Health Committee of the County Council and representatives appointed by the Boards of Guardians of the several Poor Law Unions in the County. The Chairman of the Public Health Committee of the County Council was elected Chairman of the Conference, and explained the object for which the meeting had been convened, pointing out the great increase of casual vagrancy in the county during the ten years 1885-94, as shown by the following statistics:—

Number of Vagrants relieved at Workhouses and other outside Stations during the past 10 years.

A circular communication which had been addressed by the Local Government Board to the Guardians of all the Poor Law Unions in the United Kingdom, was laid before the Conference. This communication was dated January 28th, 1895, and had regard to representations which had recently been submitted to the Local Government Board by Boards of Guardians in reference to the arrangements for the treatment of the casual poor. There was also laid before the Conference a Statement showing how far the provisions of the Casual Paupers Regulations Order, 1882, as amended by the Order of June 11th, 1892, are now enforced in the Workhouses of the several Poor Law Unions in Cheshire.

Each Article specially referred to in the Local Government Board's letter, viz. :—Article 5 (searching on admission), Article 6 (bathing), Article 7 (change and disinfection of clothing), Article 9 (detention), Article 10 (dietary), Article 11 (the enforcement of a task of work), and Article 14 (the provision of proper sleeping accommodation), was taken separately, and in cases where it appeared from the replies that the Guardians of the Unions were not carrying out the Orders of the Local Government Board, enquiries were made as to the reason for such non-compliance. The general reason urged by the representatives why the Orders as to detention were not complied with was the want of sufficient accommodation, and each of the representatives present whose several Boards did not comply with this order promised that the matter should be brought under their notice with the view of such accommodation being provided.

Representatives present were invited to express an opinion upon the steps that should be taken with the object of diminishing the increasing number of casual paupers, when it appeared to be the almost unanimous opinion that this object could only be obtained by the existing Orders of the Local Government Board being strictly and universally enforced. Several representatives expressed the opinion that the Local Government Board should exercise the power to compel Boards of Guardians to carry out in practice the existing Orders.

The Conference also discussed the subject of child vagrancy, and it was the unanimous feeling of the representatives that the evils attendant thereon should receive the consideration of Parliament.

The Chairman in closing the Conference urged those who were members of Boards of Guardians not at present complying with the Orders of the Local Government Board, particularly as to detention, to at once bring the matter under the notice of their respective Boards, with a view to sufficient accommodation being provided, so that the Orders in this respect could be enforced.

The Report of the Conference was submitted at a meeting of the Public Health Sub-Committee on Vagrants, held on September 26th, when the following Resolutions were passed :—

**RESOLVED**—That the Clerk forward a print of the foregoing Report to the Local Government Board and draw their attention to the paragraphs expressing the opinion of the Conference that the number of vagrants can only be diminished by the existing Orders of the Board being strictly and universally enforced, and also express the strong hope of the Council that the Board will take steps to compel Boards of Guardians to put into operation to the fullest extent the existing Orders of the Board as to the treatment of vagrants in the Workhouses of the County.

**RESOLVED**—That a print of the proceedings of the Conference and of the foregoing resolution be forwarded to the Boards of Guardians of all the Poor Law Unions wholly or partly in this County.

The Sub-Committee's Report was adopted in due course.

**Water-supply.**—By the Public Health Act, 1875, power is given Local Authorities to construct necessary waterworks, two months' notice of their intention being given to allow of objections being heard by the Local Government Board. The supply must be maintained pure and wholesome, and at a pressure which will carry it to the top story of the highest dwelling-house in the district supplied. The Authorities may supply to public baths or washhouses or for trade purposes on terms agreed on, or may gratuitously supply public baths or washhouses, established otherwise than for private profit; and Urban Authorities must provide and maintain fire plugs, &c., for securing a sufficient supply in case of fire. When the water of any well, tank, cistern, or pump, used for drinking purposes, is reported to an Authority to be so polluted as to be injurious to health, they may apply to a Court of Summary Jurisdiction, and the Court may cause the water to be analysed at the cost of the Local Authority, and may make an Order temporarily or permanently closing the well.

The Public Health (Water) Act, 1878, amends the Public Health Act, 1875, as far as relates to water-supply. It makes it the duty of every Rural Sanitary Authority to see that every occupied dwelling in their District, has within a reasonable distance an available and sufficient supply of wholesome water. If the Medical Officer of Health or Inspector report that a house is without such supply, and the Authority are of opinion that it can be provided at a reasonable cost, they shall serve a notice on

the owner, requiring him, within a specified time to provide a water-supply, and at the expiration of this time, if the notice is not complied with, the Authority may serve another notice stating that if the requirements of the first notice are not complied with within a month, they will provide such a supply, and recover the expense from the owner. This provision does not exempt the Authority from the duty (imposed on them by the Public Health Act, 1875) of supplying their District in cases where danger arises to the health of the inhabitants from the insufficiency or unwholesomeness of the existing supply and a general scheme of supply is required, and such supply can be got at a reasonable cost. It is not lawful in any Rural District for the owner of a dwelling-house, built or rebuilt from the ground floor, after the date of the commencement of this Act, to allow the same to be occupied without having obtained a certificate from the Sanitary Authority that a sufficient supply of wholesome water is available. It is made the duty of the Rural Authority, from time to time, to ascertain the condition of the water-supply within their District.

These powers would be sufficient to enable every Authority to obtain an adequate and wholesome supply for every household, if it were not for the restrictions conveyed in the word "reasonable cost." It often happens that the Medical Officer of Health or Inspector reports that a house is without a sufficient supply of wholesome water, but the Authority are not of the opinion that the supply can be provided at a reasonable cost, and so no action is taken, or supposing danger arises to the health of the inhabitants of a District from the insufficiency or unwholesomeness of the existing supply, and a general scheme of supply is required, if such supply cannot be got at a reasonable cost, the supply is not got. It thus happens that powers relating to the provision of Water in the Public Health Act, 1875, and the Public Health (Water) Act, 1878, are in great part inoperative. The Local Authorities are not to blame for this, for often supplying an outlying farmhouse, or carrying out a general scheme of supply in a remote sparsely populated District, is manifestly such an expensive undertaking it would be impossible to be of opinion the work could be done at reasonable cost. No one is particularly to blame, but as long as the powers given have such limitations the water-supply in many districts will be insufficient, and shallow wells, so liable to pollution from the surface, will be used.

There is a Bill at present before Parliament, entitled the District Councils' Water Supply Facilities Bill, which should it pass, will probably be especially helpful to those who are endeavouring to obtain a proper water-supply for

houses in sparsely populated localities. The object of this Bill is to give facilities to District Councils to make arrangements with landowners to charge their estates for the purposes of assisting in the provision of a supply of pure water thereto.

The reports from the towns are as follows:—At Congleton Borough the service is constant, and during the year town's water was introduced into 48 houses not previously supplied. The supply for the Borough of Crewe is from Artesian wells at Whitmore. The Medical Officer of Health made regular monthly analyses of this, and found it of uniformly good quality, varying only a few degrees in hardness. At Hyde Borough, Manchester water has been supplied to the higher parts of the district since 1893. In Macclesfield Borough no complaints of the town's water are recorded. The water supplied to Stalybridge is reported to be "of the purest." At Alderley Edge the quantity is adequate, but the quality hard. Samples of two pump-wells were submitted during the year, and one sample being reported on unfavourably the well was closed. At Alsager the supply is from shallow wells. At Altringham the supply is from Manchester. It was analysed during the year and found satisfactory. The supply for Ashton-upon-Mersey from the North Cheshire Water Works, is very good. Higher and Lower Bebington are supplied with excellent water from the Wirral Water Works. Bowdon has a good supply from Manchester. Satisfactory progress was made in 1895 as regards the water-works at Bollington. The boring was stopped at 200 feet as it was believed there would be a sufficient supply at that depth. At Bredbury and Romiley the severe and prolonged frost interfered very much with the supply in some portions of the district, and various expedients had to be resorted to. In many places fires were kept up over the parts suspected of being frozen until the supply was restored, and in other places the mains were tapped. The quality of the water is good. The mains are flushed monthly. The town's water has been laid on to 55 houses during the year. At Bromborough there is a good supply, not excepting the Magazines village. The most important event of the year at Buglawton was the completion of the Water Works, placing an abundant supply of excellent water at the disposal of the inhabitants. At Cheadle and Gatley there is a sufficient supply from the Stockport Water Works. Several wells supplying houses distant from the mains were, during the year, cleansed, repaired, and covered. Dukinfield, the town of Ashton-under-Lyne, in Lancashire, and Stalybridge jointly own the district Water Works. The water is gathered from the springs and streams in the Swineshaw Valley, and is

pure and abundant—upwards of 20 gallons per head per day. The report from Hollingworth and Mottram is that the supply is abundant and good. The supply at Hoole is chiefly town's water, but some wells are still in use. Hoylake and West Kirby have an excellent supply from the deep wells at West Kirby. The mains have been extended, through the action of the District Council, so as to supply nearly all the scattered houses in the rural parts of Great Meols. The Knutsford water-supply has been known to be unsatisfactory for more than ten years. A special Report was made by the Medical Officer of Health on the water-supply on December 3rd, 1895, and this led the District Council to condemn the stream from which the supply is taken, and to request the Water Company to take immediate steps to provide a more pure and wholesome water. At Marple the supply is pure and plentiful, and the mains have been extended. The water from the few existing wells is satisfactory. Good progress has been made in carrying out the scheme for the supply of Middlewich. At Neston and Parkgate there is a pure supply from deep wells belonging to the District Council. The water was analysed in November, and found of the highest purity. During the year 700 yards of mains were laid, and seven houses newly supplied. The town supply of Sandbach continues to give satisfaction. It is "beautifully clear," the average hardness has been about 5.2 degrees, and the supply has been equal to the demand, though the area of consumption has greatly increased. The mains have been extended during the year on the Bradwall Road and the Heath, and good progress has been made in connecting houses with the mains. There are now 1340 houses in the District. Of these 72 are off the pipe line, and 114 are supplied from private wells, the water of which has been reported on and approved, while 1122 are using the town's water. Thus only 33 houses have still to be connected and provided with the town-supply. At Tarporley 23 houses were newly connected with the mains during the year, making in all 213 houses supplied for domestic purposes, and many others supplied for business purposes. Three wells were cleansed and repaired. At Wallasey there is an abundant supply of wholesome water. The average quantity used per head per day in 1895 was upwards of 40 gallons. At Wilmslow there were numerous complaints of the water supplied by the Stockport Water Company. A new well has been sunk. The water has often been discoloured and unusually hard. Water from the well at Dean Row, from which most of the inhabitants get their water, has been again analysed and is reported good. At Winsford the water supply is good and so abundant that there is sufficient for the public baths, where excellent

bathing can be obtained at charges varying from one penny to eight-pence. During 1895, the number of plunge baths paid for was 7821, and the number of private baths was 1035. At Yeardsley-cum-Whaley the water-supply was much augmented, in 1895, owing to Col. Cotton-Jodrell, M.P., having made a reservoir at Stoneheads. The water has been analysed and found remarkably pure.

Supplying Rural Districts with sufficient water of good quality is, of course, relatively much more difficult and costly than supplying Urban Districts, and for the reason already given is often impracticable. The Reports from the Rural Districts are as follows:—In the Bucklow District, the North Cheshire Water Company supply Timperley, Dunham, Northenden, and part of Hale. In other parts of the District there is no good general supply. In some parts it is difficult to find a good water-supply. The Manchester Corporation are seeking powers to supply Carrington and Partington with water from their mains on the Lancashire side of the Ship Canal. Of 34 samples analysed 13 were found bad and condemned. In the Chester Rural District parts are supplied by the Chester Water Works and other parts by the Wrexham Water Works; elsewhere some of the houses have good well-water, and some water which is unsuitable or deficient in quantity. Efforts have been made to extend the mains, but the expense has proved a serious obstacle. Seven samples were analysed, 4 of which were found to be contaminated. The public pumps at Ince and Dunham were repaired and 4 cottage at Backford were provided with soft-water tanks. In the Congleton Rural District, the extension of the mains from Sandbach to Booth Lane, Bradwall, Wheelock, Wheelock Heath, and Malkins has been a great accommodation to the inhabitants of these localities, and the Surveyor is endeavouring to get as many householders as possible to connect. Parson's well at Mow Cop has been enlarged, and Gray's Close well is undergoing alterations. The boring at Hassall Green has proved a failure, the water found being bad. Hassall Green, Rode Heath, Thurlwood, Lawton Heath End, and part of Bechton are much in want of a good supply.—Thirteen (water) certificates to occupy were granted. The water supply at Furness Vale, in the Disley district was deficient during the dry weather. In the Macclesfield Rural District where the supply is mainly from private wells or springs, 93 samples were analysed (about three-fourths by the Medical Officer of Health), and of these 6 were certified as bad. A scheme for the supply of the village of Prestbury has been prepared and is under consideration. The offer of the Buglawton District Council to supply water to Eaton Bank has been recommended for acceptance. The

Surveyor has been instructed to prepare an estimate for laying a 3-in. main from Brook Lane, Chorley to Lindow End, with a view to making the Stockport Water Co.'s water available to that neighbourhood. During the year an offer was made to the inhabitants in the parish of Sutton of a good supply of water at the rate of two-pence per house per week. The acceptance of this offer was put to the vote, when forty-one were found willing to pay the proposed two-pence per week and 42 were not willing to do so. In the Malpas Rural District there is a supply from the Liverpool mains but it is not constant, and in outlying parts the inhabitants are dependent on private wells and springs. In the autumn, for some time, a trial was made of the constant system, with a result that an average increase of between 5000 and 6000 gallons a day was registered. From this and also from notes taken during the severe frost in 1894 (when for a time the supply was in great part drawn from a stand-pipe) the inference is that on the intermittent system upwards of 5000 gallons run to waste daily. In the Nantwich Rural District 128 houses were newly supplied from the public mains in 1895. Eight miles of mains were laid during the same period. Altogether, up to the present 111 miles of water-mains have been laid by the Authority, supplying 3104 houses. New water works have been carried out or extensions made at Bunbury, Burland, Minshull Vernon, Shavington-cum-Gresty, Weston, Basford and Edleston. Government enquiries have been held for water-supplies for Bulkeley, Cholmondeley, Edleston, Haslington, Warmington and Wettenhall, and works in these townships are either being carried out or shortly to be begun. The water-supplies of Calveley, Alpraham, Minshull Church, Bickerton, Ridley, &c., are still under consideration, as also are extensions in many of the townships having a water-supply. Public pumps have been provided at Wrenbury and Haslington, and many private water-supplies have been improved. In the Northwich Rural District 17 townships, supplied with water, have had an uninterrupted service through the year, and the townships of Delamere and Oakmere have obtained a supply from the Liverpool mains. The water-service has been extended to Barnton. Altogether 3 miles of new mains have been laid during the year, giving a supply to 41 houses. In the Runcorn Rural District, the portions of Appleton known as Stockton Heath and Wilderspool have a good and plentiful supply of water from Warrington Water Works, and the greater portions of the villages of Walton Superior and Moore are supplied from the same source. There has been a further extension of the mains over Moore canal bridge. The supply of a portion of Bartington is still defective, and water is still needed at

Dutton. At Aston an extension of the Liverpool mains has been made for the supply of a few houses. At Aston Heath water is needed. At Clifton the improved supply continues satisfactory. Halton, Weston Point, and the village of Weston are supplied from the Runcorn Urban Authority's Water Works. The supply to "the Common" at Halton remains unsatisfactory. The village of Norton is supplied from the Liverpool Water Works, but the mains require to be extended. Alvanley still requires an improved supply. The Frodsham supply has proved a success and an extension has been carried out. At Kingsley improvements have been effected in the water supply. At Manley a scheme for supply has been carried out at the owner's expense. At Norley the supply to Blackmore Lane continues unsatisfactory. In the Stockport Rural District a well was closed at Bramhall and more require closing. At South Werneth the water-supply is satisfactory. In the Tarvin Rural District 4 new wells were sunk during the year, and several cleansed. Eleven samples of water were analysed, of which 8 were found contaminated. In the Tintwistle district the supply is good and sufficient. Wirral is generally well supplied from the Wirral water-works, except Bidston-with-Ford and Noctorum, which are supplied from the Birkenhead water-works. Two samples were analysed by the Medical Officer of Health, and both were found to be contaminated.

There is a Report presented quarterly by the County Analyst giving particulars of the results of analyses of samples of water submitted to him from the Urban and Rural Districts, and the County Council take steps to ascertain what action is taken by the several Authorities for preventing water certified as bad or of doubtful purity from being used for domestic purposes. Out of 174 samples analysed in 1895, 20 were certified as of doubtful purity, 38 as bad and unfit for domestic use, and 10 as very bad.

**Dairies, Cow-sheds, and Milk Shops.**—Under the Dairies, Cow-sheds, and Milk Shops Order it is unlawful for anyone to carry on the trade of cow-keeper, dairyman, or purveyor of milk unless registered by the Local Authority. No one is allowed to begin to occupy a building as a dairy or cow-shed unless he makes provision to the reasonable satisfaction of the Authority for its lighting and ventilation, including air-space and cleansing, drainage and water-supply, and he must give the Authority a month's notice in writing of his intention to occupy. Dairies and cow-sheds, new or old, can only be occupied as long as the lighting, ventilation, air-space, cleansing, drainage and water-supply are such as are necessary for the health and good condition of the cattle, the cleanliness

of milk-vessels, and the protection of milk against infection or contamination. It is unlawful to allow any person suffering from a dangerous disease, or having been recently in contact with such person, to milk cows or in any way help in a milk business, and unlawful for a cow-keeper or dairyman to offend in a similar way. A milk store must not be used as a sleeping-room, or for any purpose incompatible with the cleanliness of the milk. No. W.C.'s, &c., are allowed to communicate with a dairy or milk-store, and pigs are not allowed to be kept in a cow-shed. The milk of diseased cows must not be mixed with other milk, or be sold or used for human food, and must not be used for the food of swine or other animals until boiled.

Local Authorities may make regulations for the inspection of cattle in dairies, for prescribing and regulating the lighting, ventilation, cleansing, draining and water-supply of dairies and cow-sheds, for securing the cleanliness of milk stores and shops and milk vessels, and for prescribing precautions to be taken against infection and contamination.

Doubtless the terms of this Order are very well known to the Medical Officers of Health and Inspectors in the County, and they endeavour in their various Districts to see that the law is carried out. Still in many Districts no regulations appear to have been made, and without precise regulations it is impossible to insure that premises, cattle, and milk are kept clean and in order. The Medical Officer of Health for Crewe reports that at not a single milk-shop in the Borough is milk exclusively sold. At 8 of the milk-shops groceries are sold and at the remaining 30 milk-shops vegetables are sold. There are 57 cow-sheds, and during an inspection of these it was found that 345 cows were kept in the Borough. The report from the Borough of Macclesfield is that there are 57 milk-houses registered by the Authority, and that 84 visits of inspection were made during the year. At Altrincham and Alderley Edge the dairies &c., were visited and found satisfactory. At Ashton-upon-Mersey the dairies were inspected. At Higher and Lower Bebington the dairies &c. receive attention, and are generally well kept. At Bollington there are 17 dairies and milk-shops, which on inspection were found clean and well kept. At Bredbury and Romiley there are 55 dairies and cow-sheds, which are visited by the Inspector four times a year. The District Council have made regulations similar to those recommended by the Local Government Board, except that 600 cubic feet of air-space are required for each cow instead of 800 cubic feet. No new cow-shed in the District will be allowed to have less than 600 cubic feet, while as many as possible of the old cow-sheds will be altered. At Bromborough there

are 7 registered premises inspected. At Cheadle and Gatley there are 54 dairies, &c., visited from time to time by the Medical Officer of Health. They are well kept and clean, and suggested improvements were carried out. In Dukinfield there are 15 dairies, &c., and 66 visits of inspection were paid to them. With one or two exceptions they were found scrupulously clean. At Hoole there are 9 milk-houses regularly inspected. At Lymm there are 25 registered premises supervised by the Inspector. Regulations made by the Authority have been in force since 1888, but a little more systematic inspection seems to be needed to see that the regulations are carried out. At Marple there are still no regulations and the Medical Officer of Health recommends that they be made. In the Nantwich Urban District are 22 registered premises, regularly inspected and kept in fair order. In the Northwich Urban District are 9 registered premises periodically inspected and kept clean. In the town of Runcorn are 38 milk-shops and 13 cow-sheds, regularly supervised and visited—only in one instance during the year was there cause for complaint. The dairies, &c., at Sandbach have been inspected and found in order; and a special Committee has been appointed to revise and bring up to date the regulations affecting the milk trade. In the Tarporley District are 7 milk farms inspected and generally in good condition. At Wallasey are 26 cow-keepers and 47 purveyors of milk duly registered. At Winsford are 9 registered premises, systematically inspected and subject to regulations. The report from the Bucklow Rural District is that regulations have recently been adopted to control dairies and cow-sheds; but if strictly enforced nothing less than entire reconstruction of the premises will avail in many instances. In the Chester Rural District are 92 dairy farms. They are inspected and generally found well kept. Action is taken in respect of defects when required. In the Macclesfield Rural District 11 premises were registered during the year. There are at present 351 persons registered. All the premises were visited and were generally found well kept. In the Malpas District the dairies, &c., are looked after by the Inspector, and any irregularities dealt with. The dairies and cow-sheds in the Nantwich Rural District have been inspected as opportunity offered, but very little time could be given to the work. In the Northwich Rural District dairies, cow-sheds, &c., were inspected. The Stockport Rural District Council are recommended to make regulations under the Dairies, Cow-sheds and Milk-shops Order. In the Wirral and Tarvin Districts premises registered for the sale of milk (in Wirral they number 255) have been inspected.

**Bakehouses.**—The regulations as regards bakehouses are in the Factory and Workshops Acts, 1878 and 1883, and the Medical Officer of Health, in respect of bakehouses, has the powers of an Inspector under the Factory and Workshops Act, 1878. Bakehouses are defined as “any places in which are baked bread, biscuits or confectionery from the baking or selling of which a profit is derived.” Where a bakehouse is in a town containing over 5000 persons at the last Census, the inside walls and ceilings of its rooms and the passages and the staircases shall be painted with oil or varnished with three coats, to be renewed every seven years, and washed with hot water and soap every six months, or shall be lime-washed every six months. In similar bakehouses, no room on the level of the bakehouse and part of the same building shall be used as a sleeping place unless effectually separated by partition from floor to ceiling, and unless it has an external glazed window of at least 9 square feet, of which half is made to open. It is not lawful to let or occupy as a bakehouse a room not so let before June 1st, 1883, unless no drain for carrying sewage opens within the room, no W.C., privy, or ashpit communicates directly with it, and any cistern for supplying the bakehouse shall be separate from the cistern supplying the W.C. The occupier of any bakehouse whatever is liable to a penalty if the Local Authority’s Inspector satisfies a Court of Summary Jurisdiction that the bakehouse is, on sanitary grounds, unfit for a bakehouse.

These regulations also, in all probability are known to all Medical Officers of Health and Inspectors in the County, yet there is little evidence in the Reports submitted that they are put in force. In only 16 out of the 55 Reports received is there any reference to bakehouses. In the Districts these represent the bakehouses were inspected and found clean and in good order as a rule. The proportion of bakehouses to the population varies much in different Districts, for instance in the Boroughs of Crewe and Macclesfield the population is almost equal, yet in the first named are 25 bakehouses and in the second 57. In Sale action was taken against a bakehouse unfit for the purpose.

**Unsound Meat, &c.**—The statutory powers under which unwholesome food is now ordinarily seized and dealt with in the provinces are contained in Sections 116 to 119 of the Public Health Act, 1875. Any Medical Officer of Health or Inspector may at all reasonable times inspect and examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour or milk exposed for sale or deposited in any place for the purpose of sale, or of preparation for sale and intended for the food of

man, and if any such animal, carcase, &c., appear to the Medical Officer or Inspector to be diseased, or unsound, or unwholesome, or unfit for the food of man he may seize and carry it away in order that it may be dealt with by a Justice. If it appears to the Justice that the animal, carcase, &c., so seized is diseased, or unsound, or unwholesome, or unfit for the food of man he shall condemn the same and order it to be destroyed, &c., and the owner is liable to fine or imprisonment. Any person who obstructs or impedes an Officer when carrying into execution these provisions is liable to fine. A search warrant may be obtained to search for unsound food kept or concealed in any building. The inability to examine and seize certain kinds of unsound food, and to examine and seize any food when sold, and the inability of the Justice to condemn certain kinds of unsound food, and food sold, and food not seized, have been remedied by Section 28 of the Public Health Acts Amendment Act, 1890. Any Urban or Rural Authority by adopting this section may effect the required change as far as relates to the Authority's District.

The powers of Medical Officers of Health and Inspectors to seize and obtain an order to destroy any kind of unsound food, are therefore ample; yet there appears to be very little food condemned in the County. Either there is practically no trade in unsound meat, &c., in this large County, or the trade is not interfered with. The subject is only alluded to in five Reports. In the Borough of Crewe two butchers were proceeded against for exposing for sale meat unfit for food. One was imprisoned for a month for exposing the carcase of a pig which was in an advanced tuberculous condition. The Magistrates dismissed the case against the other butcher. In the Borough of Macclesfield the Medical Officer of Health was on three occasions called by the Inspector to examine bad meat. In two instances the meat had been kept too long, in the third other parts of the carcase were tuberculous. In all 654 lbs. were seized and destroyed. The Bredbury and Romiley District Council took proceedings against a butcher for exposing, in his shop, meat unfit for human food, and obtained a conviction. At Knutsford an offence under the "unsound meat" clauses of the Public Health Act was reported to the Medical Officer of Health, but on investigation was found not proved. At Wallasey the amount seized was very large,—59,936 lbs. of meat (beef, mutton, veal and pork) and 19,619 lbs. of offal. Nearly all this was seized at the slaughter-houses in connection with the Foreign Animals Wharf. A small proportion was from the shops situated in the District. No proceedings were taken other than applications to Magistrates for orders to destroy the meat and offal seized.

During the year several carcases of animals were found washed up on the Wallasey and Liscard shores. In each case the carcase was destroyed. This appears to be all the unsound food seized or destroyed in the County.

**Slaughter-houses.**—Urban Authorities may provide Public Abattoirs, for the regulation of which they may make bye-laws. It is a pity this power is so seldom used, as private slaughter-houses, whether registered or not, are very liable to cause nuisance. The Reports from 30 Districts record that local slaughter-houses have been inspected, and that they are generally well kept. At Crewe Borough there are 14 slaughter-houses on the register, and excellent abattoirs (which are very seldom used) in connection with the Cattle Market. At Macclesfield Borough there are 28 registered slaughter-houses—25 only being in regular use. During the year 2 were repaired and one was demolished. The Inspector paid 512 visits of inspection. At Altrincham 2 cases of slaughtering on unlicensed premises were reported and dealt with. At Bredbury and Romiley (where the slaughter-houses are in much better condition than formerly) a butcher was proceeded against for slaughtering on premises declared unfit for registration, and convicted. At Cheadle and Gatley the slaughter-houses, 6 in all, are still unlicensed. On inspection they were found clean for the most part, but not all well kept. At Dukinfield there are 15 slaughter-houses, but only 9 in use. Many have insufficient air-space and light and are in objectionable places. The Medical Officer of Health suggests that it would be an advantage to have a public abattoir. The Medical Officer of Health for Marple reports that the slaughter-houses there should be registered. The 15 registered slaughter-houses in the Nantwich Urban District were inspected; the butchers removed their offal more promptly than formerly. Towards the close of the year 2 applications to license premises were refused. In the Northwich Urban District are 15 registered slaughter-houses which are inspected monthly. One was removed from the register during the year. At Wallasey the premises of the butchers in the town, no less than the abattoirs, are well inspected. The Medical Officer of Health for Wilmslow advises his Authority to provide a public abattoir. In the Nantwich Rural District the registered slaughter-houses are in many ways open to improvement. One new slaughter-house was registered in this District during 1895.

**Offensive Trades.**—A person establishing an offensive trade in an Urban Authority's District, without the Authority's consent in writing is liable under the Public Health Act, 1875, to penalty and a further penalty for each

day on which he carries on the trade. The trades mentioned in the Act are those of "blood-boiler, bone-boiler, fellmonger, soap-boiler, tallow-melter, tripe-boiler, or any other noxious or offensive trade or manufacture." When any of the preceding trades or any slaughter-house, or any place used for a trade process causing effluvia, is certified to an Urban Authority by their Medical Officer of Health, or any two medical practitioners, or any ten inhabitants, to be a nuisance or injurious to the health of any of the inhabitants of the District, complaint must be made before a Justice, and if it appears to the Court that the nuisance exists, and that the defendant has not used the best practical means for abating such nuisance he shall be liable to a penalty, and on repeated conviction to a higher penalty. The model Bye-laws of the Local Government Board include among offensive trades those of blood-dryer, leather dresser, tanner, fat melter, glue maker, size maker, and gut scraper.

There is very little reference to offensive trades in the Reports. In five Reports it is expressly stated that "there are no offensive trades" in the district. The Medical Officer of Health for Hyde mentions that permission was given in the autumn of 1895 to establish a knacker's yard and bone-boiling house. The place was not constructed and has not been worked as required, and a nuisance has been created. He trusts the Corporation will refuse to renew the license at the expiration of the twelve months. In Wallasey the Inspector obtained evidence of an offensive trade (gut-scraping) having been established at New Brighton, and notices were immediately served on the occupier to cease carrying on the trade, with the desired effect. Permission was granted to an applicant to carry on the trade of a horse-slaughterer at Poulton, in the same Urban District.

**Food Adulteration.**—Mention is made in 3 Reports of action taken under the Sale of Food and Drugs Acts, by means of which adulteration is detected and punished. From Dukinfield it is reported that several cases of adulteration were proved. Three prosecutions were undertaken for adulteration and 2 for offences under the Margarine Act. At Stalybridge 6 samples of milk and 5 of butter were sent to the Analyst. All were found pure but one sample of milk, and this was certified to be 50 per cent. deficient in cream. Proceedings were taken against the purveyor, but the Magistrates dismissed the case on payment of costs, because the purveyor had received a written guarantee of purity with the milk. At Macclesfield Borough 34 samples were taken and analysed and none were found adulterated.

**Recreation Grounds.**—There is very little to be recorded under this heading. At Cheadle and Gatley a few ladies and gentlemen gave a field of about seven acres, at a cost of over £1000, to the District Council and the Council accepted the gift, for use as a recreation ground. It is now in use and is very highly appreciated. At Dukinfield a Committee has been in existence over 12 months, for obtaining open spaces and playgrounds for the benefit of the people, but up to the present negotiations which have been carried on with this object are not completed. At Bollington the Medical Officer of Health tried to induce his Authority to purchase a field conveniently situated, for use as a children's playground. The Medical Officer for the Borough of Crewe points out that in the absence of a playground in the centre of the town, the back streets and passages are usually chosen as meeting-places for recreation, and the ash-pits and middens are considered by the youngsters as admirably adapted to some of their games. He is informed that six acres of land, having an entrance into Market Street, yield a rental to the Corporation of only £28 per annum; it would therefore appear that by the sacrifice of this sum a good-sized play-ground could at once be obtained. A very pressing want would thus be provided temporarily.

**Meteorological Results.**—Four Medical Officers of Health furnish records on the meteorology of the year. It is remarkable that three of these records were taken at Bidston, Stalybridge and Crewe, representing the north-eastern and north-western extremities of the County, and a point in the south about equidistant from the other two points of observation. The other record is from Macclesfield, which is almost exactly midway between Stalybridge and Crewe. The results are not quite comparable. However they serve to show that the mean temperature was 48.1 F. in Bidston (near Wallasey), about one degree lower in Stalybridge, and about another half a degree lower at Crewe. The temperature is not given in the Macclesfield results. The difference in the rainfall is very noticeable. The total rainfall was as follows:—

Borough of Crewe	...	19.29	inches.
„ Macclesfield	...	34.09	„
„ Stalybridge	...	35.49	„
Bidston (near Wallasey)	...	26.26	„

**Inspection of Canal Boats.**—Power is given under the Canal Boats Acts, 1877 and 1884, to Sanitary Authorities to cause inspections to be made of canal boats, and no canal boat can be used as a dwelling unless registered. The regulations for registration, fixing the number of

persons allowed, promoting cleanliness, and preventing infectious diseases in such boats are (as required) the Local Government Board's.

Judging by the Reports there are 18 Districts in which the provisions of these Acts are in force — The Urban Districts of Congleton, Macclesfield, Altrincham, Dukinfield, Lymm, Marple, Middlewich, Nantwich, Northwich, Wallasey and Winsford, and the Rural Districts of Bucklow, Congleton, Macclesfield, Nantwich, Northwich, Runcorn and Wirral. The number of boats inspected is not stated as regards Marple, and in Middlewich no boats appear to have been inspected. The number of boats inspected in all the other Districts was 888, in 1895. The number was 833 in 1894. In 62 instances, according to the Reports for 1895, some breach of the regulations was observed, and the owners were required to conform to the regulations. No prosecution was instituted under the Canal Boats Acts.

**Caravans.**—Caravans, tents, or sheds, when used as dwellings, should not be neglected. In Wallasey, during the year, all vans used as dwellings, which entered the District, were inspected to ascertain their sanitary condition and the means used for the disposal of refuse. The vans in all cases were found to be cleanly kept.

**Interments.**—At Ashton-upon-Mersey, the space for interments having been found inadequate, the burial ground near St. Martin's Church has been added to. So much difficulty has been experienced at Bollington in trying to obtain a site for a public burial ground, that the Medical Officer of Health suggests to the District Council their obtaining compulsory purchasing power. At Bowdon there was an inquiry as to the advisability of discontinuing burials in the parish churchyard, and it was decided that there was at present no reason for requiring this. The Cheadle and Gatley District Council, during the year, arranged to purchase a very suitable plot of land for a cemetery, which will probably be opened in 1896. At Knutsford accommodation for burials was declared inadequate in 1882, and matters have grown worse since. If the negotiations in which the Cemetery Committee have for months been engaged should prove abortive, compulsory powers of purchase will have to be used. At Handforth, in the Stockport Rural District, the churchyard (the condition of which has been referred to in previous Reports) has been closed, and the question of other arrangements for interments is under consideration. At Hazel Grove, in the same Rural District, a case of burying a body too near the surface in Norbury Churchyard was reported, and on instructions received from the Home Office was remedied. It is important that no interment should be

allowed where there is less than three feet of earth above the coffin. In one or two Reports there is a reference to the need of a public mortuary. A proper place for the reception of dead bodies before interment is a public convenience, and any Local Authority may provide such a place and fit it up, and make bye-laws with respect to the management and charges for use of the same.

FRANCIS VACHER,  
*County Medical Officer of Health.*

June 16th, 1896.

Administrative County of Chester.

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SUMMARY OF REPORTS

OF

District Medical Officers of Health

FOR THE YEAR

1895.

the number of cases, and there were comparatively few in November and the first half of December, but about the close of the year the number of cases again increased. Considerable efforts were, throughout, made to arrest the progress of the outbreak by keeping children from infected families from school, securing isolation as far as possible for the infected, and disinfecting houses, but the Medical Officer thinks "it is doubtful whether the result adequately compensated for the time and trouble expended, for through there always being a large number of cases that were not heard of till long after their occurrence, which doubtless spread the disease in all directions, anything like stamping it out was rendered impossible." The teachers of the various schools very readily supplied lists of absent children from time to time, and these were the chief means by which the existence of cases was ascertained. As a very large number of the children away from school were not absent on account of scarlatina, the investigation of the causes of absence involved the labour of making hundreds of unnecessary visits. In a epidemic extending over a long time (as may have to be dealt with in the future) such a system of investigation would not be possible, as there is not a sufficient staff of officers to carry it on. If the cases were reported to the Medical Officer of Health, under the provisions of the Infectious Disease Notification Act, by the parents and medical men in attendance, they could all be dealt with satisfactorily in a tenth of the time it now takes to trace a part of them.

Four of the 7 who died from scarlatina were under 5 years of age.

**Measles.**—There were two distinct epidemics of measles, the first, confined to St. James' Parish, beginning in July, and the other, extending over the rest of the town, beginning in October. Considering the extensive prevalence of the disease, the mortality was not high. The 7 who died were all under 5 years of age.

**Diphtheria.**—The cases of this disease, one of which was fatal, were inquired into, but nothing was found to account for their occurrence.

**Typhoid Fever.**—The cases of this disease (one being fatal) appeared to be due to causes affecting only the inmates of the houses in which they happened.

**Diarrhœa.**—Autumn diarrhœa was very prevalent in August and September, and 5 deaths were ascribed to it. Taking into account the number of cases, the disease was not very fatal.

**Influenza** became epidemic in the second week in February, and continued so till the end of April. Seven of the 9 deaths in the district took place between February and April. Four persons belonging to the district died of influenza at the

Workhouse, in March. Apart from the 13 deaths directly ascribed to influenza, there is no doubt that indirectly it contributed greatly to raise the general death-rate. Throughout the year cases were of common occurrence, but after the disease ceased to be epidemic it was of a mild type.

**Infantile Mortality.**—Out of the whole number of deaths 48 were of infants under 1 year old. The proportion of such deaths to the number born is rather large, yet the deaths do not appear to have arisen from causes which could have been much influenced by bad sanitary conditions. Almost a fourth of the number were returned as due to premature birth alone.

**Inspector's Report.**—The following particulars, taken from the report furnished to the Medical Officer of Health by the Sanitary Inspector, show that a large amount of good sanitary work was done during the year. Seven streets were seweried, 117 houses were re-drained throughout and provided with trapped gullies, and 48 houses (not previously supplied) were provided with town's water. There were 1090 sanitary inspections made and 420 sanitary notices served. Eighty ashpit-closets were converted into pail-closets, bringing the number of pail-closets in use up to 776. There were 5070 loads of night-soil removed, and 321 tons of peat manure manufactured.

The Inspector also had a large amount of work to do in connection with infectious disease—making inquiries about cases and disinfecting infected premises, &c.

**Canal Boats.**—Nineteen canal boats were inspected, and 2 notices were served in respect of infringement of regulations.

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### CREWE.

Municipal Borough.

Medical Officer of Health—DR. HERBERT JONES.

Population at Census, 1891—32783.

Estimated Population in middle of 1895—37020.

Area in acres—2193.

Birth-rate per 1000 living—33.4.

Death-rate per 1000 living—16.8.

Death-rate from seven principal Zymotic Diseases—2.5.

Deaths under one year to 1000 births—160.

**The Area** of the Borough of Crewe when incorporated in 1877, was 1336 acres. By Local Government Board Order, No. P. 770, which was confirmed by Local Government Board Provisional Orders Confirmation (No. 11) Act, 1892, and came into operation on November 9th, 1892, the limits of the Borough were extended to include parts of the civil parishes of Coppenhall Church, Shavington-cum-Gresty, and Wistaston. The total area of the extended Borough is 2193 acres.

The area of the Wards is as follows :—

Central Ward	...	...	134 acres.
West	„	...	676 „
North	„	...	942 „
South	„	...	441 „

**Altitude and Subsoil.**—At Hightown the height above sea-level is 200 feet, at Nantwich Road it is 189 feet, at Market Hall it is 179 feet, in the valley it is 145 feet, and at the Sewage Farm, 125 feet. A subsoil of stiff clay extends over nearly the whole of the Borough. Very exceptionally (in some instances only for a few superficial yards) there is a sandy subsoil.

**Population.**—In a town such as Crewe it is impossible to apply the same methods in estimating the population that would be adopted in a town the increase of which is not so great or so intermittent. For instance : if it be assumed that the increase of population has been in the same proportion during the past five years—that is since the Census—as during the ten years 1881-91, one is met at once with the fact that the number of houses erected annually during 1881-91 was 150, and the number erected annually during the last five years was 210. If the houses had increased in a larger proportion than the inhabitants, there would be some evidence of this, but there is none. The estimate of population made for the purposes of this Report is 37020. The number is arrived at as follows :—

Houses on Rate-book	...	...	7588
Empty houses	...	...	184
 			<hr/>
Total occupied houses	...	...	7404
Persons per house (Census 1891)	...	...	5
 			<hr/>
		37020	

The population of the four Wards in 1895, is estimated as follows :—

Central Ward	...	...	10300
West	„	...	8885
North	„	...	8460
South	„	...	9375

**Houses and Ratable Value.**—As showing the small ratable value of a large proportion of the houses in Crewe, the following statement is interesting. It refers to the houses on the rate-books, March 25th, 1895 :—

154 houses rated under £5 per annum.

5762	"	"	at £5 and under £10 per annum.
1250	"	"	£10
224	"	"	£20
94	"	"	£30
44	"	"	£40
15	"	"	£50
15	"	"	£60
10	"	"	£70
4	"	"	£80
5	"	"	£90
10	"	"	£100
1 house	"	above £200.	£200

—  
7588

From the above it will be seen that 78 per cent. of the houses in Crewe are rated under £10 per annum, and 95 per cent. under £20 per annum.

**Births and Deaths.**—In 1895, the number of births registered was 1237 (645 males and 592 females) of which 3·2 per cent. were illegitimate. The birth-rate is 1·0 lower than the mean birth-rate in 1885-94. In 1895 the number of deaths registered—including 14 deaths of persons belonging to the district, which took place in Nantwich Workhouse—was 622 (320 males and 302 females). The death-rate is just below the mean death-rate in 1885-94.

The monthly death-rate varied from 7·8 in June to 20·0 in August.

There were six deaths the causes of which were uncertified, *i.e.*, 0·96 per cent. of the whole number of deaths.

During 1895 the bodies of 71 still-born infants were brought to the cemetery for burial. The number brought for burial in the five years 1890-94 was 202—about 40 a year.

**Infantile Mortality.**—Of the whole number of deaths 198 were of infants under one year old, and 90 were of infants between one year and five years old. The number of deaths of infants under one year old is equal to 160 per 1000 births. Thus while the general death-rate of the Borough in 1895 is just below the average death-rate in 1885-94, the infantile mortality in 1895 is about one-seventh higher than in 1885-94. It is useful to inquire—of what diseases did most of these children die, and in what particular locality did most of them reside? Of the 198 deaths, 42 were from diarrhoea, 41 from lung diseases, 21 from premature birth, 21 from debility, 19 from convulsions, and 12 from tabes mesenterica or tubercular disease. Thus diarrhoea is at the head of the list. The fatal cases occurred in groups of houses, and these groups had a remarkable tendency to be composed of those houses provided with cess-pools, privy-middens, and privy-pails. The Medical Officer of

Health remarks that "it must be more than a coincidence that this class of house habitually has a mortality from diarrhoea three times greater than those houses upon the water-carriage system."

**Zymotic Diseases.**—The number of cases of zymotic diseases which came to the knowledge of the Medical Officer of Health, during 1895, was 616, viz.: 133 measles, 348 scarlatina, 2 diphtheria, 33 whooping-cough, 91 diarrhoea, and 9 typhoid fever. The number of deaths from the seven principal zymotic diseases, during 1895, was 92, viz.: 7 measles, 22 scarlatina, 2 diphtheria, 7 whooping-cough, 48 diarrhoea, and 6 typhoid fever.

The zymotic death-rate for 1895 was equal to the average zymotic death-rate in the ten years 1885-94.

Small-pox was entirely absent from the Borough in 1895. Only a very small number of children born in Crewe remain unvaccinated.

**Measles.**—Although measles was prevalent more or less during the whole year, it did not become epidemic till the end of July. Two deaths were registered as due to it in August, there was one death in October, and there were four in December. At the end of November the epidemic was at its height, and no doubt the closing of the public elementary schools on November 22nd was responsible to a certain extent for the diminution in the number of cases occurring.

**Scarlatina.**—In the earlier months of the year there was but little scarlatina in the town. Up to the end of May only 18 cases came to the knowledge of the Medical Officer of Health. The first death from this disease was recorded on May 24th. About the middle of June, however, 20 cases came to the knowledge of the Medical Officer of Health, nearly all being among children attending the same elementary school; it is thus extremely probable that some child of whose illness he was not aware had returned to school in the infectious stage, and communicated the disease to its schoolfellows. One death occurred in June. The schools were closed for the summer holidays for the whole of July, and during that month there were no deaths recorded. However, in August 30 cases were heard of with one death; in September 38 cases were heard of with 3 deaths; in October 80 cases were heard of with 6 deaths; and in November 111 cases were heard of with 8 deaths. During October and the early part of November, the Medical Officer of Health made constant enquiries, with the assistance of the School Attendance Officer, with a view to deciding as to the desirability of closing some or all of the public elementary schools. So rapidly did the epidemic appear to be spreading during the second week of November, that a special report was presented to a joint meeting of the Health Committee and School Attendance Committee on November 19th, advising that

all public elementary schools should be closed for a period of six weeks. An order was accordingly issued requiring these schools to be closed from November 22nd, 1895, to January 6th, 1896. A circular letter was also sent to every Clergyman and Minister in the town, advising the closure of the various Sunday schools for a like period, a course which it was at once decided to adopt. Of the 37 cases heard of in December no less than 30 were before the 5th of the month. With the closing of the schools the most valuable source of information was taken away, still the Medical Officer of Health has reason to believe that after the expiration of two weeks from the date of the closing of the schools there were very few fresh cases of the disease. In the absence of compulsory notification, it was a little difficult to obtain evidence sufficiently weighty to justify a general closing of the public schools. The head teachers and assistant teachers promptly gave information, and did all they could to reduce the amount of sickness among the scholars to a minimum,

Wherever possible, the clothing, bedding and infected rooms of the convalescent from scarlatina were efficiently disinfected. To lessen the risk of infection through the medium of children's books and toys, these were supplied free to those applying to the Sanitary Inspector. The books and toys were furnished to the Inspector by several ladies and gentlemen in the town in response to an appeal from the Mayor.

The death-rate, in 1895, from this disease was 0.59 per 1000 living.

**Diphtheria.**—It is satisfactory to be able to record only 2 deaths from this disease—one occurred in July and one in December.

**Whooping-cough** did not prevail very extensively at any time of the year, though it was the registered cause of one death in each month from March to September, inclusive.

**Typhoid Fever.**—Although two deaths occurred in January and one in February from typhoid fever, it was in the second half of the year that the disease most prevailed. Only 8 cases were brought to the knowledge of the Medical Officer of Health, and covered sanitary pails containing peat were sent for the use of these, but he has reason to believe that there were many other cases in the town. He feels certain there was a common origin in some instances, and believes he should have been able to trace out this source had the Infectious Disease (Notification) Act been in force.

**Diarrhœa.**—Of the 49 deaths from diarrhœa 48 were among children under five years of age—42 being among infants under a year old. The disease was prevalent during July, August and September, and in the early part of October. The concurrence of infantile diarrhœa with a continued elevation of the temperature of the earth—say one foot and more below the level of the ground surface—has been frequently established; it

is not surprising to find, therefore, that during the months named above, the 1 foot and 4 feet earth thermometers registered respectively, with only the slightest variations, 62 degrees and 58 degrees F., and that when this temperature suddenly fell during October, the deaths from infantile diarrhoea ceased. The number of deaths from infantile diarrhoea is equal to a death-rate of about 1.3 per 1000 of the whole population.

As illustrating the grouping of the fatal cases in certain houses, the Medical Officer of Health gives the number of houses and deaths and sanitary accommodation in four groups, thus :—

	Houses.	Deaths.	No. of W.C.'s.
1. Henry Street ...	271 .....	4 .....	7
2. Thomas Street ...	127 .....	4 .....	10
3. Gresty Road ...	188 .....	4 .....	5
4. Liverpool St. and houses surrounding Christ Church	250 .....	2 .....	250

Nearly all the houses in the first three groups are provided with privy-pails or cesspools, the fourth group has exclusively waste-water closets. In all other respects the four groups are exactly alike, especially as regards ratable value and the class of tenants, although it should be remarked that the houses in the fourth group are much more crowded together than those in the other three.

**Influenza.**—From the returns received during January and February through the Secretaries of the Friendly Societies, it was evident that influenza prevailed in the town to a considerable extent. Out of the 6 deaths from the disease 5 were recorded in March. During the latter half of the year there were few, if any, cases. The depressing after-effects of influenza are well-known ; among those affected in Crewe, no fewer than 3 men committed suicide, each strangely enough taking the form of cut-throat.

**Phthisis.**—The death-rate from consumption (1.1) is appreciably higher than the average rate recorded in the Borough during the last ten years. Of the 42 deaths, 34 were among persons between 20 and 50 years of age, 26 were of males and 16 of females.

**Pneumonia.**—Twenty three of the 49 deaths from pneumonia (inflammation of the lungs) were among children under 5 years of age. The deaths from pneumonia are equal to a death-rate of 1.3 per 1000 living.

In the Cottage Hospital (opened on August 7th) two deaths occurred—one from severe burns and one from pneumonia.

There were two deaths in the L. & N. W. R. Co.'s Hospital, both following accidents which had occurred in the Company's Works.

**Inquests.**—There were 42 inquests held during 1895, of which 26 were upon males and 16 were upon females. Seven

were upon infants under one year old. The mean annual number of inquests in the ten years, 1885-94, was 25.1.

**Alcoholism.**—Three of the deaths on which inquests were held were ascribed to alcoholism.

**Isolation Hospital.**—This hospital, being reserved for small-pox cases only, has not been in use during the year. The inside walls and ceilings have been whitewashed; the blankets, bedding, &c., have been overhauled and passed through the disinfector; and various minor structural repairs have been carried out. The hospital is visited periodically, and can be got ready at a few hours' notice.

**Proposed New Hospital.**—In the last Annual Report it was stated that a site of 5 acres had been purchased, on which it was proposed to erect an Isolation Hospital to accommodate 30 patients, and that competitive plans had been invited by public advertisement.

Sixty-three plans were submitted in competition, and on February 26th last the General Purposes Committee decided that Mr. George Bolshaw, of Southport and Crewe, be employed as the architect in the erection of the hospital. This minute was confirmed by the Council on March 6th. On March 12th the Health Committee, at a special meeting, resolved that application should be made to the Local Government Board for sanction to borrow £8000 for Isolation Hospital purposes. This minute was confirmed by the Council on April 3rd. On May 21st an Inquiry was held in the Council Chamber by Dr. Sweeting, on behalf of the Local Government Board, and on June 24th the Council received the sanction of the Board to borrow the sum named, the Council undertaking that cases of small-pox should not be taken or treated on the site proposed to be utilised. Permission was given to borrow £750 (the cost of land) for a period of fifty years; £5,930 (the cost of the buildings) for thirty years; and £1,320 (the cost of furnishing, fencing, architect's and other incidental charges) for ten years.

On September 14th tenders were invited by advertisement for the erection of the buildings, and on October 18th seven tenders were received. The tender of Mr. John Matthews, of Nantwich, was accepted, the amount being £5,899. Tenders have since been invited for the erection of a boundary wall. [Mr. Matthews' tender for £504 has been accepted.]

The site is an admirable one, and has probably but one fault—a clay sub-soil. It is sufficiently elevated to overlook the greater part of the Borough, being only 18 feet below the highest portion, and 64 feet above the lowest portion. Situated as it is on the north-eastern side, the prevailing winds will blow from the town toward and across the site. It is very centrally placed and although within half a mile of the centre and business portion of the town, and not more than a mile and a half from any part of the Borough, it has, except on the southern side,

the open country for miles round. On the south side there are not 250 houses within a radius of a quarter of a mile.

Although it is proposed at present to provide accommodation for only 28 patients, the blocks have been arranged with a view of placing on the site additional pavilions, so that it would be practicable to increase the accommodation to 100 beds at comparatively little extra cost.

The aspect of the buildings is nearly north-west and south-east, every portion of the wards will therefore obtain a maximum amount of sun. The administrative block contains a Matron's room, Nurses' room, Medical Officer's room, kitchens, and 7 bedrooms. If required additional bedrooms can be added. The larger of the two general pavilions has two large wards (one to accommodate 8 beds and the other 6 beds) and two wards containing one bed each. Between these four wards is a nurse's room, so placed and arranged that the Nurse in charge can see each of the wards from that room. Covered verandahs are on the north-easterly side of the pavilion. The bathroom, to contain a portable full-size bath, opens out of the entrance vestibule. The lavatories and w.c.'s are placed at each side of the pavilions, and are cut off from the main building by a cross-ventilated passage. The smaller pavilion contains two wards to hold 6 and 4 beds respectively. Except that it has no single-bed wards, it is arranged precisely as the larger pavilion. A third pavilion contains two single-bed wards, divided by a nurse's room. In these will be placed patients, when the nature of the malady they are suffering from is in doubt. Such patients can thus be kept under "observation," and in the event of its being found, after the lapse of a suitable time, that any person is not suffering from an infectious disease, he can leave the hospital without having been himself exposed to infection. There is also a block containing a steam laundry, a disinfector, a mortuary, stabling, sheds for ambulance vans, and a discharging bathroom. This last is a bathroom between and communicating with two dressing-rooms—the patient about to return home will undress in the first room, take a bath, and then dress in the second dressing-room, the clothing in the meantime having been disinfected in the steam disinfector.

**Disinfection.**—Carbolic acid powder is freely used by the night-soil men, who are practically empowered to use an unlimited quantity. Some six tons have been used in the course of the year. This disinfectant is also given gratuitously to those who come to the offices for it; in this way 502 packets were distributed in 1895. Not the least of the advantages attaching to this distribution is the knowledge which is frequently obtained of insanitary conditions, &c.; indeed, in the absence of compulsory notification, it often happens that the first intimation of the existence of a case of infectious disease, is through the application by some one from the infected house, or by a neighbour, for disinfectants.

The steam disinfecter has been much used during the year—almost daily during the last six weeks. On two occasions articles were disinfected for families outside the Borough, a charge for this being made.

The method of house disinfection underwent an entire revolution during 1895. With many others, the Medical Officer of Health has long felt that the ordinary “fumigation” of an infected room is little more than a farce. There is no doubt from the researches of Professor Koch that the most satisfactory disinfectant is perchloride of mercury (corrosive sublimate), and he has found that a solution containing one part per 1000 is sufficiently strong. In the early part of the year the Medical Officer of Health used this solution upon the walls and ceilings of 3 houses, applying it with a white-wash brush, but the method of application was seen to be undesirable, for the solution trickled down the walls, the upper part being hardly touched and the lower portion being saturated. He therefore, with the permission of the Health Committee, purchased an equifex spray producer, with which 81 rooms have been disinfected. Indeed wherever house-disinfection has been required since November 20th, it has been done with this apparatus. A room of ordinary size can be thus disinfected in about two hours, no part of the corners, cornices, or window-ledges, being left untouched by the disinfectant, and so fine is the spray that the colours of wall-papers rarely if ever, run one into the other. The machine resembles a small garden syringe: the lower portion contains the solution of corrosive sublimate, in the upper half is an air-pump; the air being discharged along one tube extracts the solution through the second tube, and a very ingenious spiral coil introduced at the extremity of the tubes causes the solution to be thrown out in a very fine—almost invisible—spray. The handle of the machine, when not in use, is kept fast by a chain-lock. The risk of poisoning by misadventure with this disinfectant is incomparably less than that which attends the distribution of strong carbolic acid, as practiced in some towns, the acid being given out in the applicants' own bottles.

Rooms and the bedding &c. therein, having been disinfected, the owner of the house is written to and requested to white-wash and re-paper the rooms which have been occupied by the patient. With few exceptions the work has been done almost at once; but whenever a fortnight has elapsed without the owner taking any action in the matter, the 5th section of the Infectious Disease (Prevention) Act, 1890, has been put in force, and the needed work done.

**Notification of Infectious Disease.**—In two previous Annual Reports the Medical Officer of Health has urged upon his Authority the desirability of adopting the Infectious Disease (Notification) Act, the principle of compulsory notification being now in force in 134 English towns having a population of

over 25,000. In his monthly report for June he asked that the question be reconsidered, and eventually he was instructed to report upon the cost of carrying out the Act in other towns of a like population to Crewe, where the Act has been adopted. At the September meeting of the Health Committee the Medical Officer of Health reported that he had obtained information from 23 towns, each having a population of between 30,000 and 40,000 persons, and found that during the five years 1890-94, the average annual cost of administering the Act had been £35. He again urged the adoption of the Act, but the Committee were in favour of deferring the matter. In November the subject was again discussed, and in December the Medical Officer of Health once more pressed for the adoption of the Act, but without success.

**Notification of Sickness by Friendly Societies.**—

This system of notification has been in force in the Borough for about a year and a half, and by its instrumentality not a few insanitary conditions have been rectified. The returns sent in from the various Secretaries average 15 per week. The experience at Crewe tends to show that much valuable information would be obtained by the local Authority if the Secretaries of all registered Friendly Societies were placed under an obligation to forward their sick returns to the Medical Officers of Health for their districts. Even if payment were made, say at the rate of three-pence for every return sent in, the annual cost would not be great—in Crewe it would not reach £10, yet in Crewe probably a larger proportion of the population are Club-members than in other towns.

**Examination of Houses.**—Several householders have availed themselves of the offer made in 1893 to examine any house in the town as to its sanitary condition free of charge. The principal defects pointed out have been waste-pipes directly connected to drains, or an unsatisfactory condition of the cellars, either from faulty traps or badly jointed or broken drain pipes.

**Systematic Inspection.**—A very complete house-to-house inspection was made in 1893. Though, during 1895, every part of the town was visited at one time or another, the pressure of work prevented a systematic house-to-house inspection being made.

**Bakehouses.**—There are 25 bakehouses in the Borough. With only one or two exceptions they are kept in a cleanly condition. Since the beginning of the year, at 4 bakehouses old insanitary privies have been converted into w.c.'s. There are now only 6 with out-offices in an unsatisfactory condition, and there is reason for believing that before long these will be done away with. It is most essential that a building in which is carried on the production of such an important article of diet as bread should be in a thoroughly good sanitary condition,

and this cannot be the case if within a few feet of the building, excrement is stored up from one week's end to another.

**Cow-sheds.**—There are 57 in the Borough, 29 of which are in the North Ward and only 3 in the Central Ward. During an inspection it was found that there were 345 cows in the Borough, 232 of which were in the North Ward and only 8 in the Central Ward.

**Dairies and Milk-shops.**—There are 38 in the Borough, and in not one is milk exclusively sold. At 8, groceries, &c., are sold, and at the remaining 30 vegetables are sold.

**Common Lodging-houses.**—There are 6 registered common lodging-houses in the Borough—3 in the Central Ward and 1 in each of the other Wards. They can accommodate in the aggregate 105 persons, and it is usual for each house to have its full complement of lodgers. It seems impossible to keep these houses in a thoroughly satisfactory condition. “When a lodging-house is registered for only 20 beds or less; when it has not been built primarily for a lodging-house, and when such a small sum as four-pence per night only is charged for the accommodation, it is too much to expect the keepers to do more than satisfy the very barest requirements.”

During the year the Medical Officer of Health had an opportunity of inspecting Lord Rowton's lodging-house at Vauxhall, which accommodates 500 men, and the model lodging-house built and managed by the Salford Corporation, accommodating 285 men. Each of these, he notes, is a financial success, and he feels sure that a Municipal lodging-house of say 100 beds, if established in Crewe, would prove to be self-supporting. If such an institution took the place of existing lodging-houses, it would remove a distinct danger—the risk of small-pox, scarlatina, &c., being imported and spread by lodgers.

**Houses Let in Lodgings.**—The Model Bye-Laws relating to houses let in lodgings were adopted in 1877.

**Slaughter-houses.**—There are 14 registered slaughter-houses in the Borough. Six are in the Central Ward, 2 in the West Ward, 1 in the North Ward, and 5 in the South Ward. These are nearly all kept in fairly clean condition, but most of them are far too small for the purpose for which they are used. The Medical Officer of Health is astonished that the principal butchers at any rate do not make use of the slaughter-houses at the cattle market, instead of slaughtering in the middle of the town.

**Diseased Meat.**—Two butchers were proceeded against during the year for exposing for sale meat unfit for food. One was imprisoned for a month for exposing the carcase of a pig in an advanced tuberculous condition. In the second instance the magistrates dismissed the case.

**Factories and Workshops.**—There are 41 factories and 63 workshops in the Borough. The number of each in the four Wards is as follows:—

	Factories.	Workshops.
Central Ward	... 18	... 32
West „	... 9	... 11
North „	... 6	... 8
South „	... 8	... 12

These have all, including the L. & N. W. Ry. Co.'s Works, been visited during the year.

In December the Medical Officer of Health presented a Special Report on the Factory and Workshop Acts. This is in fact a *résumé* of the sanitary and some other requirements of the Factory Acts, together with those sections of the Public Health Acts which refer to factories and workshops. This is printed with the Annual Report. It is very complete, and, in view of the extent to which the obligations of Sanitary Authorities and the duties of Sanitary Officials have been increased by the last two Factory and Workshop Acts, cannot fail to be useful.

Towards the end of this Report is a reference to local clothing factories, as follows:—"In the principal clothing factories in Crewe the workpeople are employed under the most satisfactory conditions, in large, airy, well-ventilated rooms, there never being the least question as to overcrowding. The most definite regulations, therefore, of the Act of 1895 have been, in these instances, voluntarily carried out.

**Adoptive Acts.**—The Infectious Disease (Prevention) Act, 1890, came into operation in Crewe on January 1st, 1891. The Public Health Acts Amendment Act, 1890, came into operation in Crewe on February 1st, 1891.

**Water supply.**—The Medical Officer of Health has made periodical analyses of the water supplied to the town from the Artesian Wells at Whitmore, by the L. & N. W. Ry. Co., and found it of uniform purity, varying, however, in hardness.

**School Accommodation.**—The public school accommodation in the Borough suffices for 6716 scholars, apportioned to the Wards as follows:—

	2657	1663	1118	1278	Per cent. of Population.
Central Ward	... 2657	... 1663	... 1118	... 1278	25
West „	... 1663	... 1118	... 1278	... 1278	18
North „	... 1118	... 1278	... 1278	... 1278	13
South „	... 1278	... 1278	... 1278	... 1278	13

All the voluntary schools, 11 in number, in the Borough, are now on the water-carriage system, being provided with latrines which are flushed automatically during the day, and every night and morning, by the school caretaker. The two Board Schools at Church Coppenhall are on the pail system.

There is now, no doubt, frequent overcrowding in some of the schools ; but the new schools which are approaching completion in Beech Street, and the additional rooms at the Trinity and Edleston Road schools, will accommodate some 500 more children. There is also a new school about to be erected in the South Ward, for 400 scholars.

**A Play-ground Needed.**—The absence of a play-ground in the centre of the town for children is being more and more felt, and year by year the available plots are being built over. At present the back streets and passages are usually chosen as meeting-places for recreation ; indeed, the youngsters appear to consider the ash-pits and middens an especial attraction, and admirably adapted to some of their games. More than once the Medical Officer of Health has watched a group of boys chasing one another through an uncovered privy-midden, leaping in through one door, climbing the inside and so on round and round. Sometimes, too, a small boy is seen hanging head downwards in an ash-pit, inhaling the effluvium from the ash-pit-contents.

The Medical Officer of Health is informed that the six acres of land adjoining the cemetery, having an entrance into Market Street, yields a rental to the Corporation of only £28 per annum ; it would therefore appear, that by the sacrifice of this sum, a good-sized play-ground could at once be obtained. To meet the reasonable objection that noisy games should not be allowed in a field actually adjoining the cemetery, it is suggested that a strip of land 20 or 30 feet wide might be railed off between the play-ground and the cemetery. A very pressing want could thus be met for a few years at any rate. At the same time an effort should be made to obtain a permanent central recreation-ground.

**Licensed Public-houses.**—There are 86 licensed houses in the Borough. The number does not include houses which have an “off license.” There is thus one public-house to each 430 persons in the town. There are 36 houses in Central Ward, 14 in West Ward, 17 in North Ward, and 19 in South Ward. During the year great improvements have been made in the sanitary arrangements of many of these houses. The cellars of not a few were found to be in a most deplorable condition ; but they are now, almost without exception in a fair state. Sixty-nine of the licensed houses are entirely on the water-carriage system, 14 having been so placed in 1895. The remaining 17 still have privy accommodation—some of the privies will probably be replaced with w.c.’s during 1896. The owners have, as a rule, shown a disposition to do what is required to place their property in a thoroughly good sanitary condition.

**Ventilation of Sewers.**—In 1895, as in previous years, many complaints were made of foul smells coming through the

street level manhole ventilators. At the end of 1893 it was decided to make certain alterations in the floors of some (about 300) of the manholes, by which the catchpit character would be abolished, and the sewage allowed to flow continuously along the sewers. This work was not carried out in 1895, but is to be put in hand shortly. When these 300 sewer-gas manfactories—for that is really what catchpits are—are abolished, the Authority will be in a better position to define the most suitable position for ventilating-shafts, if any be needed.

**Reconstruction of Privies and Ashpits.**—During the year 24 fixed receptacles, 113 cesspools, 23 pail-closets and 85 privy-middens were re-constructed, and converted into 101 wash-down water-closets, 40 waste-water closets and 104 pail-closets.

The multiplication of pail-closets in the town is very much to be deplored ; for where properly laid sewers exist, as in Crewe, no more costly method could be devised for dealing with a large part of the sewage, both as regards the property owner and the Corporation. Then carting through the streets nearly ten tons of night-soil nightly, can hardly conduce to the health or well-being of the inhabitants. The Medical Officer of Health thinks that the time has arrived when the 72nd Bye-Law with respect to New Streets and Buildings might be altered, so that it should not be permissible to construct a privy in connection with a building, less than 40 feet from a dwelling-house or public building. At present a privy may be erected 6 feet from a dwelling-house. Of the plans passed during 1895 nearly 100 showed pail-closets ; and included in this number were the plans of a bake-house situated in a central part of the town—a bake-house in other respects of a modern and improved type.

**Removal of Ashes and Refuse.**—In 1895, the number of privy-middens emptied was 12,919, the number of privy-pails emptied was 109,374, the number of ash-bins emptied was 62,200. The number of loads of ashes &c. (removed in the day time) was 5,462, and the number of loads of night soil &c. (removed during the night) was 4,914—at a total cost of £2180 15s. 3d. In 1894, the number of loads of ashes &c. removed was 5,367, and the number of loads of nightsoil &c. removed was 4,496—at a total cost of £2187 2s. 4d. Thus the cost of removal per load was 4s. 2½d. in 1895, and 4s. 5¼d. in 1894.

There are several improvements which might be effected in the removal of ashes ; and the principal one is getting rid of the heaps which lie in the streets waiting to be loaded into the carts. As the present form of cart gets worn out it would be well to substitute a lower vehicle, so that wherever possible the ash-bins may be emptied directly into the carts, thus doing away with the double labour involved in emptying the bin on

the roadway, and then throwing the ashes in spadefuls into a high cart. There should also be a more frequent—possibly daily—removal of refuse from business premises.

The treatment of dry ashes at the sewage farm has lately undergone a complete change. Formerly the contents of the ash-bins were mixed (after tins, brick-bats &c., had been extracted therefrom) with the crude night-soil from pails and cess-pools; the resultant heap being left for many months to "sweat," and during this process no small nuisance was caused. The new method adopted during the latter part of 1895 has been as follows:—The dry-ashes have been screened through an upright screen, the coarser portion being burned under the boiler at the pumping-station in lieu of slack, and the finer portion (after sprinkling with about 10 per cent. of strong sulphuric acid) being made into a receptacle, measuring 10 or 12 feet by 4 feet and about 18 inches deep. Into a receptacle thus formed the crude night-soil has been emptied, and the following morning the acidulated ash-dust and night-soil have been thoroughly mixed with an iron rake. The acid having fixed the ammonia, there was little or no smell created, and the mixture made a good manure. These proceedings were at first carried on in a very primitive manner, the entire work being done in the open air; but when it became evident the system would be successful, Mr. Woodhouse, the Farm Manager, recommended that a vibro-motor screen, worked from the pumping-station, be erected, and that shedding be placed in a position to enable the screening and mixing to be done under cover\*

**Meteorology.**—The following table shows the result of observations made by Mr. George Latimer, Curator of the Queen's Park, Crewe.

1895.	Rainfall in Inches.	Number of days in which rain fell.	Mean Temperature.			
			Maxi- mum in Shade.	Mini- mum in Shade.	1 foot below ground.	4 feet below ground
January ... ...	1.55	11	36.3	22.2	35.0	43.8
February ... ...	.06	4	35.4	18.4	32.4	38.7
March .. ...	1.72	16	49.4	31.2	36.9	39.3
April ... ..	1.56	9	56.3	36.5	44.4	42.4
May ... ...	.63	6	67.0	41.2	52.3	47.3
June ... ...	2.37	8	71.3	44.5	57.5	52.3
July ... ...	4.05	16	68.9	50.7	59.9	55.7
August ... ...	2.02	16	70.7	49.7	60.0	57.3
September ... ...	.54	6	72.5	46.7	59.0	57.7
October ... ...	1.65	16	54.0	34.1	50.2	55.0
November ... ...	1.76	15	50.0	37.0	45.6	49.7
December ... ...	1.38	14	40.6	30.8	40.8	43.7

\*Tenders have been accepted for the erection of a screen and shedding for the sum of £77 5s.

The entire rainfall of 1895, in Crewe, was therefore 19.29 inches. In 1894 the Crewe rainfall amounted to 19.99 inches, and in 1893 to 16.37 inches.

The record as to wind shows how very little the N. & N.E. winds prevail. For five months in 1895 on no single day was there a N. wind, and for four months in 1895 on no single day was there a N.E. wind.

**Acknowledgments.**—The Medical Officer of Health concludes with thanks to the Chairman and Members of the Health Committee for the consideration which they have at all times shown, and to Mr. Wm. Urquhart, the Sanitary Inspector, for the energy he has shown in carrying on the work of the department during the year.

## HYDE.

### Municipal Borough.

Medical Officer of Health—DR. G. W. SIDEBOOTHAM.

Population at Census, 1891—30670.

Estimated Population in middle of 1895—31696.

Area in acres—3074.

Birth-rate per 1000 living—30.1.

Death-rate per 1000 living—23.2.

Death-rate from seven principal Zymotic Diseases—2.5.

Deaths under one year to 1000 births—239.

The constituent parts of this District are as follows:—

	Area in Acres.	Population at Census.
Hyde (including Knott Fold and part of Gee Cross) ... ...	897	... 20354
Part of Werneth (including part of Gee Cross) ... ...	662	... 1575
Godley ... ... ...	645	... 1408
Newton ... ... ...	870	... 7333

In 1895 the number of births registered was 955, and the number of deaths registered (excluding 4 deaths of persons not belonging to Hyde, which took place in the Infectious Hospital) was 738. Of the deaths 229 were of infants under one year old, and 155 were of persons 65 years old and upwards. The seven principal zymotic diseases account for 80 deaths. Thus the general death-rate was high, the zymotic death-rate was high, and the proportion of deaths among infants was very large. The death-rate in 1895 (23.2) has only once been exceeded since the incorporation of the Borough—this was in 1893, when the death-rate was 24.1.

The low death-rate in 1894 (16.4) being followed by so high a death-rate in 1895, the Medical Officer of Health considers is in great measure due to climatic influences. The

exceptional rigor of winter in 1895 was fatal to many young children and old people who survived the mild winter of 1894. For instance, the number of deaths attributed to senile decay in 1895 was nearly double that in 1894 ; and the deaths from acute lung diseases in 1895 exceeded those registered in 1894 by nearly 50.

**Notification of Infectious Disease.**—There were 552 cases of infectious disease notified during the year, viz. : 1 small-pox, 452 scarlatina, 16 diphtheria, 6 membranous croup, 35 typhoid fever, 5 puerperal fever, and 37 erysipelas. Of these 299 were removed to Hospital, viz. : 1 small-pox, 297 scarlatina, and 1 typhoid fever.

**Small-pox.**—The only case of this disease in the Borough was reported on March 9th, and at once removed to Hospital where recovery took place. The patient was a man, 19 years old, employed as a carter by a greengrocer. As he was in the habit of attending market in Manchester, it is considered that he might have contracted the disease there. He had been vaccinated in infancy and had two good marks as large as a shilling. The disease was extremely mild, the pustules being small and abortive. Indeed there was some doubt as to whether the man really was suffering from small-pox.

Though 6 other cases of small-pox were received into the Hyde Hospital during the year, only one of them was from Cheshire. This was a case received from Dukinfield on April 1st. The patient was a woman, 18 years old, who had been vaccinated in infancy and had two good marks as large as a shilling. The disease was mild and the eruption discrete. There was hardly any constitutional disturbance and recovery was rapid. The only case in the Hyde Hospital which proved fatal was received on September 14th from Droylsden, in Lancashire.

**Scarlatina.**—Of the 452 cases of this disease occurring in the Borough 21 terminated in death—that is 4·6 per cent. of the cases proved fatal. Of the 297 cases removed to Hospital 8 terminated in death—that is about 2·7 per cent. Ten cases were received from districts outside the Borough, and of these 2 (from Bredbury) proved fatal.

Partly owing to the large number of cases appearing in the first instance, the Hospital accommodation was much overtaxed, and the disease made headway, so much that it was impossible for the limited staff at the disposal of the Sanitary Inspector to cope with the necessary disinfection. Thus for a long time little or no progress was made in subduing the disease, and it was epidemic a great part of the year. In December the Medical Officer of Health prepared a Special Report to the Sanitary Committee. Suggestions contained in the Report were acted upon by the Committee, and soon after

the fever diminished in a very marked degree. The Special Report was as follows :—

**TO THE MEMBERS OF THE SANITARY COMMITTEE.**

The epidemic of scarlet fever which has so long prevailed in the town shows little signs of abatement, notwithstanding the fact that all the earlier and a large proportion of the later cases were sent to the Isolation Hospital.

It appears to me that although two of the three essentials for combating infectious disease are working well in the district, viz., (1) the notification of diseases and (2) their treatment in Hospital, yet the third, which consists in the thorough disinfection of the patients' houses and of their friends who have been in contact with them, and in some cases quarantine of the latter, has not been stringently carried out, owing to the Sanitary Inspector having so much other work to do and not having a staff of men to help him. Added to this there seems to be great apathy among the inhabitants as to the paramount importance of thorough and immediate disinfection, and the necessity of avoiding contact with infected persons and things. Then very often there is quite a crowd when the Ambulance arrives to take a case away, and no sooner is it gone away than many persons at once begin to go in and out of the house. This is frequently followed by a recurrence of the disease in the same or neighbouring houses. I would suggest that all persons who have been exposed to infection should submit to disinfection at the Hospital while the house is being fumigated or otherwise dealt with, and that the whole of this process should be taken in hand without a moment's delay after the removal of the patient by competent persons.

In order that this may be done the Sanitary Inspector ought (temporarily) to have an increased staff of men at his command, for it is at present impossible to deal with every house, now that the disease has attained such proportions, with the assistance he has.

I think if this had been done at the outset the disease might have been kept within bounds, and probably the saving of the money which has had to be paid for reporting infectious diseases would have covered the cost of the process, to say nothing of the saving in the Hospital expenditure, which has been incurred in the treatment and maintenance of so large a number of children. From January 1st up to the end of October no less than 250 patients had been admitted. This at times involved much overcrowding of the wards, and much overworking of the Hospital resident staff, and even then patients had to be left at home for want of room, and patients from outside districts could not be taken in at all. By dint of great

exertion the nursing staff managed to deal with this large number of patients with very successful results, and without having to engage extra assistance in their work, the only aid obtained being another servant to help with the washing, which was naturally a heavy item in the week's work. It was then that the want of a laundry was so much felt, for all the ironing and much of the drying of the accumulation of clothes had to be done in the kitchen, which is the only room the probationers and servants have for a sitting room and dining room.

It would be well if the Corporation were to exercise their powers in prosecuting persons who fail to comply with the Act and spread infection. Such a case for example as came under my notice a few days ago at No. 1 Orchard Street. Here a case of scarlet fever was duly notified by a man on October 28th, and the usual notice was served on November 1st, yet on November 10th lodgers were admitted without being informed that there was scarlet fever in the house. On the 14th the child of the lodgers became ill, and on the 15th it showed distinct symptoms of scarlet fever. If this had not been discovered, and if strong remonstrances had not been made, other lodgers would have been received on November 17th.

Perhaps a Sub-Committee might take the matter in hand, for with the approach of winter the mortality from the disease is increasing, and this will still further add to the very unfavourable death-rate which will have to be recorded for the year. Already the average rate for the 11 months ending November, from all causes, reaches the alarming figure of 23.5.

**Return Cases.**—On two or three occasions there was a re-appearance of the disease in households shortly after the return of a patient from Hospital. It was very difficult to account for these, especially as great care was taken to keep patients in till desquamation had finished and all discharge from ears or nose had ceased. Thinking possibly that the necessary pressure in the steam-disinfector had not been reached, and its work not efficiently done, the Medical Officer of Health had the gauges tested and the rubber-packing renewed, so as to preclude any danger from that source. When a disease is so universally spread over a town as scarlatina was spread over Hyde in 1895, it is almost impossible to say if a recurrence in the same house is the result of infection from a recently returned member of a family from Hospital, or an independent and separate infection from outside.

**Diphtheria and Croup.**—Whereas there were 16 cases notified as diphtheria and 6 as membranous croup, there was 1 death ascribed to diphtheria and there were 8 deaths ascribed to membranous croup. Thus there must be some element of

doubt, in the minds of medical men, as to how these diseases should be classified. No doubt most practitioners apply the term membranous croup to cases of diphtheria affecting the larynx. This is very fatal and rarely fails to be recognised, but reported deaths from diphtheria apart from croup, it would appear, are very few, and many cases of diphtheria apart from croup escape recognition. These unrecognised cases are a source of danger, especially when appearing among persons whose vitality has been diminished by insanitary surroundings. This being so, the Medical Officer of Health recommends the Corporation to make arrangements with the laboratory authorities at the Owens College to have the morbid products in doubtful cases examined bacteriologically and reported upon.

The Hospital was so fully occupied by scarlatina cases in 1895, that there was no room for diphtheria cases. In the future an effort should be made to reserve one ward for diphtheria, where the requisite care and attention to nursing details so necessary in this disease might be carried out, and where antitoxin treatment, which is apparently so efficacious, might be followed. Arrangements should be made for the supply of antitoxin.

**Infectious Patients not Removed.**—When it is decided to keep an infectious patient at home, a printed notice should at once be sent to the school the child attends, also to the employer of the parents and to the Free Library. The parents should also inform the Sanitary Inspector as soon as the medical attendant certifies that the case has terminated, when the necessary disinfection should be done.

**Typhoid Fever.**—Out of 35 cases notified in the Borough there were 7 deaths. Only 1 case was sent to Hospital—this being among those which proved fatal. Of 3 cases sent to Hospital from places in Lancashire 1 was fatal. None of the cases could be traced to infected milk.

**Puerperal Fever.**—All the 5 cases notified were fatal. The Medical Officer of Health regrets that so little attention is given to the prevention of septic disease after confinement, among women not attended by medical practitioners. Rarely, in such cases, are any precautions taken—the fear of giving a lying-in woman cold outweighing in many minds the danger from the want of proper cleanliness and antiseptic treatment.

However, in one or two instances, midwifery nurses who had come in contact with puerperal fever cases, applied at the Hospital to be disinfected before proceeding with work. The Medical Officer of Health desires it to be generally known that any nurse attending such cases will be received and disinfected on making application.

**Erysipelas.**—Of the 37 cases notified 3 were fatal. The majority of the cases were facial erysipelas, and very few were of traumatic origin. In one case, that of an infant, not many

days old, the disease attacked the navel. This was probably the result of want of antiseptic precautions at birth, combined with insanitary surroundings.

**Diarrhoea** was registered as the cause of death in 33 cases. All those who died, with the exception of one boy, were under 5 years of age. Almost all these deaths were in September and October. The Medical Officer of Health again draws the attention of mothers and nurses to the absolute necessity of proper cleanliness in the management of milk intended for infants, and of the feeding-bottles they use.

During the year a Government notice was received by the Medical Officer of Health to keep under observation a person who had come into the district from a foreign port infected by cholera. The person remained healthy.

**Influenza.**—During the early spring many cases of epidemic influenza occurred, but no deaths were registered as directly caused by it. Still it is probable that some of the increase of fatal acute lung disease is due to influenza. The public should bear in mind the general directions and suggestions, with reference to influenza, issued by the Local Government Board.

**Acute Lung-disease.**—The number of deaths from bronchitis and pneumonia in 1895 was 156, which is equal to a death-rate of 4.9 per 1000 living. Of the 156 deaths 60 were of children under five years old.

**Phthisis.**—The number of deaths from this disease was 62. This is considerably above the mean yearly mortality from this cause in the Borough.

As phthisis is to some extent a preventable disease it is desirable the public should know what are the best means to limit the spread of the disease. The Medical Officer of Health has therefore prepared a handbill as follows, and advises that all known sufferers from phthisis, in the Borough, should have a copy.

#### DIRECTIONS.

The following directions have been prepared for your information and guidance, and you are requested to follow closely the advice therein given :—

- 1.—Do not swallow your expectoration.
- 2.—Do not spit on the ground, floor, or fireplace, but expectorate into a proper vessel containing a liquid disinfectant. Once or oftener during the day be careful that the contents of the vessel are emptied into the pan of the water-closet.
- 3.—When away from home and unable to make use of a spitting-cup, expectorate into a piece of rag, which can be burned on arriving home. If a pocket handkerchief be used for this purpose, *the expectoration must not be allowed to become dry*, so on arrival

home take immediate steps to disinfect the soiled handkerchief by boiling it for ten minutes. It may afterwards be washed in the usual manner.

Pocket spitting-cups can be bought at a small cost.

4.—Keep your room at home aired and *free from dust*, and open the windows before you leave the room. If there is a fireplace in the room do not stop up the chimney, but always keep it free for the passage of air.

5.—*It must be distinctly understood that spitting-cups are to be used when possible, and the handkerchief is only supplementary, to prevent spitting on the ground, floor, fireplace, or elsewhere.*

As it is important that what is expectorated should be thoroughly destroyed, by fire if possible, the Medical Officer of Health considers the best kind of receptacle for the spit, is one that can be destroyed with its contents. He has recently seen vessels of waterproof paper, made for this purpose by Messrs. Cartwright and Rattray, of Hyde. The cost is exceedingly reasonable.

**Isolation Hospital.**—This Institution, as already stated, was very much used in 1895. During 1893 there were 112 cases treated, and during 1894 the same number. In 1895 there were 318 cases treated.

Particulars of the cases treated are given in the following table :—

1895.	Cases Received				Deaths			
	Small-pox	Scarlatina	Typhoid Fever	Total	Small-pox	Scarlatina	Typhoid Fever	Total
Borough of Hyde ...	1	297	1	299	...	8	1	9
Outside Districts ...	6	10	3	19	1	2	1	4
<b>TOTAL ...</b>	<b>7</b>	<b>307</b>	<b>4</b>	<b>318</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>13</b>

From the establishment of the Hospital to the end of 1895, 702 cases have been admitted, and among these there have been (counting some cases received in a moribund condition) 30 deaths—equal to  $4\frac{1}{4}$  per cent.

When the construction of a laundry is undertaken the Medical Officer of Health suggests that a discharging-room should be built.

Although the Hospital has done so much good work its

usefulness would be greatly increased if there were accommodation for other diseases. There should be a pair of wards for one other disease, at least, as well as a ward for the reception of persons suffering from doubtful illness, until its real nature can be decided.

A more efficient means of filtering the effluent from the hospital sewage tanks is also needed, as the ground through which the overflow ought to percolate is nearly impermeable.

The Medical Officer of Health again suggests that a covered van should be provided for the removal of infected clothes, bedding, &c., to the disinfecting apparatus.

The housekeeping arrangements made in 1894 continue to work well. The lodge-keeper did his work in the grounds most satisfactorily, with the result that the kitchen garden and flower garden were both very productive.

The amount of work done by the nursing staff in 1895 was quite unprecedented, and the Medical Officer of Health cannot speak too highly of it.

**Infant Mortality.**—In view of the fact that in 1895 the proportion of infants who died was equal to 239 to each 1000 births, infant mortality is a subject that claims attention at Hyde. The causes leading to it are for the most part more easily recognised than remedied. Among well ascertained causes, probably one of the most potent is prematurity and want of vitality at birth, a result of early improvident marriages so frequent in all factory towns. Another cause (an indirect result of the previous one) is acute lung diseases through so many children being carried out of warm beds in the early morning, in all kinds of weather to be nursed away from home, while their parents are both at work. As a consequence many of these children become cross and fretful, and their nurses are tempted to administer narcotics in the form of soothing syrup, &c., sometimes with disastrous results, thus providing still another cause.

The suggestion that pregnant women should be prohibited from working in factories for, say, the last month of pregnancy and not be allowed to return till three months after confinement, is no doubt very excellent in theory, as the mother would be saved much risk of injury to which she is clearly liable in the factory, and also the child would have a much better chance of getting a good start in life if it had its mother's care for the first three months. However, in practice this would be very difficult to carry out, and would probably cause much resentment and discontent among the parents.

Diarrhoeal and digestive disorders are fruitful causes of infantile deaths. These are largely caused by improper feeding, sometimes carried to such a degree as to practically amount to complete deprivation of proper nutritious food. Notwithstanding all that has been written and said on the subject of infant feeding, it is undoubtedly a melancholy fact that the most

complete ignorance is still very largely prevalent on this important subject, and numbers of infants are still fed upon that most injurious and indigestible mixture popularly known as "pobs" or "pobbies," consisting of highly sweetened bread and water pulp with, in most cases, a little milk added. It seems a pity that some knowledge on this matter is not imparted at schools. It might well be taught at Continuation Schools.

The result of action taken by the Society for the Prevention of Cruelty to Children has led to the conviction of persons who have criminally neglected their children, and in some cases accelerated death. These prosecutions have shown that such cases do exist, though probably only to a small extent. Thus criminal neglect may be put down as another cause of infant mortality.

These causes make up a list formidable enough, and there are others.

**Houses Unfit for Habitation.**—More than once during the year cases of illness have come under observation at Fernaley Court, Fernaley Street. This court, the Medical Officer of Health is of opinion, is in so unsatisfactory a state that it is unfit for human habitation, and cannot possibly be made fit. It ought to be closed at once.

Much yet remains to be done in the way of closing or altering insanitary houses. Many back to-back dwelling-houses still exist.

Efforts should be made to do away entirely with midden-privies, especially in the more populous parts of the Borough.

**Sewer Ventilation.**—Many of the sewers still require ventilation to prevent the escape of noxious gas into the streets and adjacent houses from the man-holes.

**Closets in Factories.**—The closets in many of the cotton factories, especially the older ones, are often so placed that foul air is drawn direct from them into the workrooms. This is most noticeable when the closets communicate with rooms in which a high temperature is maintained. In some of these rooms the atmosphere is very unpleasant from this cause. The remedy is to have the closet disconnected from the room by a lobby with cross-ventilation.

**Offensive Trades.**—Up till the autumn of 1895 the Borough was fairly free from these trades, but then permission was given to establish a knacker's yard and bone-boiling house at the old chemical works in Raglan Street. Stringent conditions were imposed, and the license was granted for twelve months only, subject to withdrawal at the end of that period if the works were found to be a nuisance or the conditions were not complied with. The Medical Officer of Health is convinced that a nuisance does exist, and that the place was not constructed and has not been worked as required. He trusts the Corporation

will firmly refuse to renew the license at the expiration of the twelve months.

No complaints have been received lately of the tripe-dressing works in various parts of the town, so there is reason to believe that they are being conducted in a more satisfactory way.

**An Appendix** is added to the Report showing the way of calculating birth-rates and death-rates by logarithms.

## MACCLESFIELD.

### Municipal Borough.

Medical Officer of Health—DR. W. R. ETCHEs.

Population at Census, 1891—36009.

Estimated population in middle of 1895—36009.

Area in acres—3215.

Birth rate per 1000 living—25·4.

Death-rate per 1000 living—22·5.

Death-rate from seven principal Zymotic diseases—3·7.

Deaths under one year to 1000 births—217.

This Urban District includes the whole of the Registration sub-districts of East and West Macclesfield, part of Sutton and part of Hurdsfield. The area and population at the Census of these localities were as follows :—

			Area in Acres.		Population at Census.
East Macclesfield	...	...	874	...	9813
West Macclesfield	...	...	1706	...	17854
Part of Sutton	...	...	361	...	5060
Part of Hurdsfield*	...	...	274	...	3282

**Altitude and Subsoil.**—The elevation varies between four and five hundred feet above sea level. The nature of the subsoil is variable. To the W. and N. W. sand and gravel (lying on boulder clay) alternate, the sand predominating. In the centre of the town are from two to five feet of coarse gravel on firm boulder clay. To the E. brick clay on sand varies with rough gravel, and to the S. boulder clay predominates. The substratum, at a depth of from 50 to 170 feet, is new red sandstone.

**Population.**—The population at the Census, 1891, was 1505 less than the population at the Census, 1881. According to the ordinary methods of estimating population, one might assume that this rate of decrease was still going on and calculate accordingly. However as this decrease appears to have been due to the emigration to America during 1881-91, which has

\* Since July 1st, 1895, Hurdsfield has ceased to be separate, it having been joined to East Macclesfield. It has, however, been kept separate for statistical purposes till the end of the year.

fallen to a tithe of what it was, the population may safely be considered as stationary. The number of empty houses at the end of 1895 was 604, and at the time of the Census there were 913 empty houses. Since the Census about 50 houses have been demolished and 73 new houses have been built. Allowing for these there were 8624 inhabited houses in the Borough at the end of 1895, whereas at the time of the Census there were only 8295. If there were the same number of persons per house in 1891 and 1895, the population for 1895 would be 37427. However, the Medical Officer of Health has reason to believe that the number of persons per house has decreased since the Census. This may partly be due to the decrease in the number of houses occupied by more than one family.

**Births and Deaths.**—In 1895 the number of births registered was 917, equal to a birth-rate of 25.4. This is the lowest birth-rate recorded in recent years, and 2.1 below the mean birth-rate in Macclesfield for the ten years 1885-94. In 1895 the number of deaths registered (excluding 95 deaths of persons not belonging to the Borough) was 813, equal to a death-rate of 22.5. This is 1.7 above the mean death-rate in Macclesfield for the ten years 1885-94.

**Infant Mortality.**—It is well to watch carefully this mortality, as it is a good gauge of the sanitary and moral well-being of the community. A reference to Mr. Dale's note on the weather of the year will show that in 1895 the two predisposing causes to a high rate of infant mortality prevailed, viz.: a hard winter and a prolonged summer. From the following table showing the number of deaths of infants under a year old to every 1000 births in the four sub-divisions of the Borough and in the whole of England and Wales, it will be seen that during the ten years 1886-95 the infant mortality of Macclesfield has averaged high.

DEATHS OF INFANTS UNDER ONE YEAR TO EACH 1000 BIRTHS.

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	Average for 10 years.
East Macclesfield ...	233	151	171	265	219	161	215	225	137	210	199
West Macclesfield (excluding Public Institutions)	186	184	118	180	143	136	192	170	110	210	163
Sutton ... ..	153	150	148	212	124	108	235	131	126	212	160
Hurdsfield ..	124	192	87	169	160	127	177	153	156	170	151
Whole Borough ..	194	170	135	220	172	130	203	190	133	217	176
England and Wales	149	145	136	144	151	149	148	159	137	161	148

In this table it will be noted that East Macclesfield, usually recording the highest mortality, had in 1895 a lower

mortality than Sutton. This is due to the prevalence of diarrhœa in Sutton during September and October.

One reason why infant mortality was exceptionally high in 1895 may be that there was more employment for mothers in the silk trade, and so more mothers may have weaned their infants and left them to the care of others during working hours. The mortality among infants not tended by their mothers has been reckoned at almost one out of three.

Various remedies have been propounded for preventable infant mortality in manufacturing towns. Chiefly these come under three heads :—

1. Preventing mothers from going to the mills just before and for some months after confinement.
2. Providing proper care for infants in their mothers' absence, such as is afforded by crèches.
3. A more thorough investigation into the causes of deaths of infants.

At present all the Sanitary Authority can do is to improve general sanitary conditions, and see to the purity of the milk supply.

**Zymotic Mortality.**—The number of deaths in 1895 from the chief zymotic diseases (including membranous croup) was 134, viz. : 33 diphtheria, 6 croup, 9 typhoid fever, 16 measles, 9 whooping-cough and 61 diarrhœa. This is equal to a zymotic death-rate of 3·7, which is about 1·5 in excess of the mean zymotic death-rate in Macclesfield in the ten years 1885-94. Hurdsfield is usually more free from infectious disease than the other parts of the Borough, but in 1895 the zymotic death-rate was twice as high in Hurdsfield as in the remainder of the Borough.

**Notification of Infectious Disease.**—During 1895, 185 notifications were received. Of these 176 were by medical practitioners, 2 were by occupiers and 7 by the Registrar. The cases of disease notified by medical practitioners were as follows :—31 scarlatina, 117 diphtheria, 26 typhoid fever, 1 puerperal fever and 1 erysipelas. Of the cases notified by the Registrar 5 were cases of croup.

**Scarlatina.**—There were fewer cases of this disease in 1895 than in any recent year. Of the 31 cases reported 9 were isolated in Hospital. There was no death from the disease during the year.

**Diphtheria** was prevalent to an unprecedented extent during the latter half of the year. During the nine years 1886-94 there were only 26 cases notified (an average of not quite 3 a year), while in 1895 there were 117 cases notified. From July 20th to the end of the year an average of from 4 to 5 fresh cases were reported weekly. Counting the 6 cases of membranous croup (which should be taken as the same disease for preventive purposes), there were 123 known cases;

and of these 39 terminated in death—thus the mortality was equal to 31.7 per cent. of the cases.

One case occurred in February, but this did not prove a focus of infection, as no further cases were reported till June. There was, however, a prevalence of sore throats, which were not then supposed to be diphtheritic. During June, 2 cases were reported, and by the end of July the prevalence of the disease had become established.

The following table furnishes some interesting particulars as to the incidence of the cases of diphtheria in 1895:—

1895.	Population.	No. of cases of Diphtheria reported.	No. of separate families.	Sanitary condition of houses classified.				Mortality per cent. of notified cases.	Number removed to Hospital.
				Good.	Fair.	Indifferent.	Bad.		
East Macclesfield...	9,813	21	13	4	3	2	4	14.7	5
West Macclesfield, (excluding Public Institutions) ...	17,154	77	56	18	12	14	12	23.3	19
Sutton ...	5,060	6	4	1	2	...	1	33.3	1
Hurdsfield ...	3,282	18	12	2	3	4	3	50.	4
The Borough ...	35,309	122	85	25	20	20	20	31.8	29

There was no definite grouping of cases round any particular focus of infection even at the first, because the disease had become prevalent in a mild form before cases were notified.

The symptoms of diphtheria are so uncertain and variable that in many cases it is impossible, even for the most experienced physician, to decide by the appearance of the throat whether a case is diphtheria or some form of less infectious inflammation of the throat. In the London Fever Hospital the exact nature of every case is decided by bacteriological examination, and no case which is not diphtheria is retained in a diphtheria ward. Not having the necessary instruments for

such investigation, the Medical Officer of Health sent material from some of the more doubtful cases to the British Institute of Preventive Medicine, and received reports thereon. He takes this opportunity of saying that a small laboratory where such work could be done would be very useful to him.

Six of the cases reported in the month ending November 8th were scholars at Christ Church Infant School. In consequence of this, the Managers, acting under a certificate signed by two members of the Health Committee, closed the School till the Christmas holidays. It is difficult to pronounce certainly what effect this had upon the subsequent incidence of cases. If the number of cases notified represented the full amount of infection abroad, a careful supervision of these would be sufficient to guard the public without interfering with education. In the present instance, however, few cases could be traced to known antecedent cases, although there was generally a history of one member of the family having had a sore throat or been in contact with some one suffering from a sore throat. The utmost vigilance of a school teacher cannot avail to eliminate all who may be infectious. Having this in mind the Medical Officer of Health advised the closing of this School.

On December 28th the Health Committee, on the advice of the Medical Officer of Health, passed a resolution advising School Managers to prolong the Christmas holidays for a fortnight. A circular letter was accordingly sent to them, and all Schools (including some Sunday Schools) remained closed in consequence till January 20th. During the month's closure of the Schools, and for a week after, there appeared to be a falling off in the number of fresh cases notified.

There is much to be said against School closure as a preventive measure in towns and populous districts, where the children of different families, when not at School, spend their time playing together, and are in and out of each others' houses. Nevertheless, having regard to the high mortality, the serious nature of the disease, and to the Medical Officer's inability in most instances of outbreaks notified in fresh families to trace the infection to antecedent cases, he thought that this measure should be tried. The experience in London last year was that the number of cases fell in the holidays and rose again on the re-assembling of Schools, showing a connection between the two.

The Medical Officer of Health thanks the School Board officials, head-teachers and others, for the assistance they gave him in many cases to keep unsafe children from school. He suggests that each school should be supplied with a clinical thermometer, and by it the head-teachers would be able to ascertain at once whether any child, who did not appear to be well was becoming feverish—the first symptom of the onset of all infectious diseases.

From observed facts, during this epidemic, the Medical Officer of Health has been unable to attribute the disease to

anything but personal infection of one child by another. The relationship between insanitary conditions and diphtheria is not one of cause and effect, but when there is an outbreak in an insanitary dirty house, the symptoms are likely to be severe and the infection is more certain to spread from one to another. The figures in the table given bear out this view.

During the year, 764 ashpits were emptied and disinfected on account of infectious disease. It is not precisely known under what conditions infectious material may exist outside the body, but it is reasonable to assume that if the dejecta from a person suffering from dangerous infectious disease be thrown in an ashpit, the contents may become a means of propagating the disease. Ashpit contents from infectious houses are removed to the Moss, and not sold or given to farmers.

**Typhoid Fever.**—Of the 26 notifications of this disease 12 were from Parkside Asylum; and, out of the remaining 14 cases, one (that of an attendant) was in connection with the Asylum, and two were traced to a source outside the Borough.

There were in all 25 Asylum cases, one being in February and 24 belonging to the outbreak in the summer. This appeared to be due to defective drainage from the laundry, allowing some contamination of the drinking-water.

There were six deaths from typhoid fever at the Asylum and three in the town. The number of cases in the town was in 1895 below the average number.

**Measles.**—During the fourth quarter of the year there was an outbreak of measles, causing 16 deaths among young children. It appeared to be prevalent in West Macclesfield in October and November, and in East Macclesfield and Sutton in November and December. In all the death-certificates, except one, some inflammatory complications in the lungs were recorded. The mortality ceased at the end of the quarter.

**Phthisis.**—During the year 117 deaths were due to phthisis or pulmonary consumption, but 36 were of persons not belonging to the Borough. Deducting these the phthisis death-rate was equal to 2.2 per 1000 living. This is a very high death-rate and above the mean of recent years in the Borough.

The Medical Officer of Health has no doubt that a greater dissemination of information about phthisis would lead to the adoption of needful precautions. He has therefore drafted the following memorandum:—

“It is now an undisputed fact that Consumption is likely to be transmitted from the affected to the healthy by the expectoration, and that consumptives endanger not only those about them, but themselves, through the drying of their spit, because they again inhale the discharged and dried germs, in the form of dust, and thus infect hitherto sound parts of their lungs.

“Such infection may be avoided if consumptives, and, indeed, all who have a chronic cough with expectoration, keep this expectoration always moist; and if they give up spitting on the floor or into a handkerchief, and always use a spittoon which can be emptied into the drains.

“Spittoons should be placed wherever it appears necessary, in every enclosed space frequented by men. They ought not to be filled with sand or sawdust, but either left entirely empty or supplied with a very little water. They ought to be at hand in sufficient numbers in workshops and factories, public houses, and other public places, so as to give every one a convenient opportunity of observing these injunctions.

“In this way healthy people who have to remain within the same room as consumptives will be almost entirely protected from infection.”

**The Isolation Hospital.**—During the last three quarters of 1895 the Hospital has been much used. In all 39 cases were admitted, viz.: 9 scarlatina, 29 diphtheria, and 1 typhoid fever. On April 23rd the Hospital was opened to receive a case of scarlatina occurring in a large family, and from then till August 3rd cases of this disease were under treatment—the average period of retention in hospital being 35 days. On July 29th a case of typhoid fever was admitted and discharged on August 12th. From this date the Hospital was empty till September 12th, when it was re-opened and used solely for diphtheria till the end of the year. Twenty-three of the diphtheria patients recovered and six died (three within 48 hours of admission). Four mothers were allowed to come into Hospital to attend their children.

The cost of maintenance for the year was as follows:—

	£	s.	d.
Food, &c., with clothing and bedding	46	7	10
Wages of Nurse, &c. ...	64	9	1
Other expenses, including fuel and lighting ...	19	18	3
Medical attendance ...	20	0	0
	<hr/>		
	£150	15	2

The Medical Officer of Health reminds the Corporation that the existing temporary erection is rapidly deteriorating, and that the end of the term of years a “Ducker” Hospital is supposed to last is approaching.

**Improved Hospital Provision.**—The present is a favourable time for considering the question of further provision of hospital accommodation. The County Council has shown its willingness to deal with this question in conjunction with the Corporation, under the Isolation Hospitals Act, 1893. In February a letter was received by the Chairman of the Health

Committee from the Clerk of the County Council to this effect, in consequence of which the Medical Officer of Health was instructed to report on the expediency of joining with neighbouring districts for the purpose of hospital provision. After considering this report the Health Committee passed the following resolution on May 2nd :—

“That the Town Clerk be instructed to reply to the County Council’s enquiry that this Corporation is favourable to joint Hospital accommodation being provided if satisfactory arrangements can be made, and is prepared to consult upon the question as desired.”

Since then the County Medical Officer has reported that if the consent and co-operation of the Corporation were obtained a suitable Hospital District could be formed by uniting the Borough of Macclesfield with the Urban Districts of Alderley Edge, Bollington and Yeardsley-cum-Whaley and the Rural Districts of Macclesfield and Disley.

The Corporation already possess a suitable site, well away from the town and conveniently placed for the Hospital District suggested.

**Vaccination.**—At a time when the percentage of children left unvaccinated is rapidly increasing throughout England, it is very satisfactory to hear from the Vaccination Officer that of the 1017 children born in 1894 only three remain unaccounted for in this respect.

**Disinfection.**—During 1895, £48 12s. 6d. was expended in carbolic powder and soluble carbolic fluid. Disinfectants are supplied to all who apply for them. There were 121 houses disinfected.

**Common Lodging-houses.**—During the year, 832 visits were paid to the common lodging-houses. An average of 157 persons per night were accommodated. Two of the houses were repaired, and one was entirely renovated. No proceedings were taken, and no outbreak of infectious disease was traced to a common lodging-house. One house was added to the register in 1895.

**Slaughter-houses.**—There are at present 28 registered slaughter-houses in the Borough, of which 25 are in regular use. During the year two have been repaired and one has been demolished. The Inspector paid 512 visits of inspection.

**Unsound Meat.**—On three occasions during the year the Medical Officer of Health was called on by the Inspector to examine bad meat. In two instances the meat had been kept too long, and in the other instance part of the carcase was tuberculous. In all there were 654 lbs. of meat seized and destroyed as unfit for human food.

**Dairies, Cow-sheds and Milk-shops.**—There are now 57 registered milk-houses in the Borough. The Inspector paid

84 visits of inspection and urged the occupiers not complying with the regulations to do so. No prosecutions were instituted.

**Bakehouses.**—There are 57 bakehouses in the Borough, 3 of which are empty. During the year the Medical Officer of Health visited many of them and revised the list. Though he found several "structurally unfit and not clean," he saw nothing flagrantly contrary to the regulations. Some improvements have been effected. The Inspector paid 36 visits of inspection.

**The Sale of Food and Drugs Acts.**—During the year 34 samples of food were submitted for analysis to the Borough Analyst, and not one was found to be adulterated.

**Workshops.**—The present list of workshops in the Borough is as follows:—

Character of Work.						Number of Shops.
Boxmaking	...	...	...	...	...	2
Cabinetmaking	...	...	...	...	...	3
Card-cutting	...	...	...	...	...	1
Clogmaking	...	...	...	...	...	3
Confectionary	...	...	...	...	...	6
Dressmaking and Millinery	...	...	...	...	...	31
Ropemaking	...	...	...	...	...	2
Shirtmaking	...	...	...	...	...	1
Stockingmaking	...	...	...	...	...	1
Tailoring	...	...	...	...	...	6
Weaving	...	...	...	...	...	5
						—
Total	...	...	...	...	...	61

This list will be revised and probably lengthened during 1896.

**New Houses and New Sewers.**—Sixteen new houses have been built. A new sewer has been laid in High Street and carried down Mill Road. Lengths of new sewers have also been laid in Oxford Road and Francis Street.

**Houses Unfit for Habitation.**—Four houses were reported as unfit for human habitation, and were consequently ordered to be closed. These were 6 and 7 Back Samuel Street, and 1 and 2 Court 2, Exchange Street. One house was closed voluntarily on the suggestion of the Medical Officer of Health. He regrets so little progress has been made with house-to-house inspection—only 40 houses have been visited in this connection.

**Middens and Refuse-removal.**—The amount of refuse taken from the midden-privies, &c., increases yearly, but the expenditure has increased much more rapidly than the number of loads removed. The annual cost is now about 11½d. per head of the population. The Sanitary Inspector recently reported to the Health Committee on this matter. His explanation is that when, about 20 years ago, the Local Authority undertook the emptying of midden-privies, &c., householders had

long been trained to put nothing in these receptacles but what the farmer approved of, knowing that if he would neither purchase or take the refuse, they would be responsible for its removal. After the Corporation took over the work house-holders became gradually more and more indifferent as to what was put in the pits. At first the farmers actually purchased from the Corporation the contents of the midden-privies and fetched the stuff, then the farmers were given the stuff for carting it away, and finally the Corporation had to remove the stuff in their own or hired carts. The refuse has become valueless and much increased in quantity, and the cost of removal has been enhanced by all the near and convenient tips being closed. Other circumstances also, not within control, have increased the cost of this work, and the Inspector is of opinion it will still increase.

As the rubbish-tipping accommodation is quite exhausted, and the Inspector knows not where to go for fresh tips, he recommends the erection of a "destructor."

During 1895, 8 privies were altered to water-closets and 42 new water-closets were constructed. After the completion of the new system of sewers, no doubt many more midden-privies will be converted into water-closets yearly.

The sanitary development of most towns has been from cesspools to midden-privies, from these to pails, and from pails to water-closets and dust bins. Much was said in favour of the pail system twenty years ago, but it has not been found to work well in populous centres. The Medical Officer of Health is of opinion that it is better to pass at once from the midden-privy to the water-closets. He suggests that when a midden-privy is reported to the Health Committee as requiring re-construction, it should be re-constructed either as a "wash down" closet or a waste-water closet, unless there are sufficient reasons to the contrary. There appear to be only three objections that can possibly be brought against the water-carriage system, viz.: (1) the expense of conversion, (2) the freezing of supply-pipes in winter, and (3) the obstruction of the drains by articles improperly thrown down the closets. As regards the first objection, a water-closet would cost the house owner only about 20 per cent. more than a new privy. As to freezing there is little risk of this in a waste-water closet, but in any other kind of outside water-closet the danger is considerable. The Medical Officer of Health adds—"the only way to obviate it is for the Sanitary Authority to object to this form of closet unless it is placed so near the back kitchen that the cistern can be inside." In respect of the last objection all that need be said is that choking of the drains might happen frequently at first, but not after the occupiers got accustomed to the improved sanitary accommodation.

In the Medical Officer's Report are sections of two waste-water closets.

**The Main Drainage Works.**—The execution of these works was commenced on October 7th, and by the end of the year 1,936 yards of sewers had been laid. Many of the sewers replaced appear to have been very imperfect, and the ground through which they passed badly contaminated—notably the sewer in Sunderland Street.

**Inspector's Report.**—The number of nuisances entered in the books in 1895 was 299, the number of nuisances removed was 322, and the number of complaints received was 124. The number of preliminary notices and letters was 447, and the number of formal notices served was 74. The number of house-drains repaired and cleansed was 94, and the number of sink waste-pipes disconnected was 16. There were 85 privies and ash-pits repaired and improved. There were 140 houses specially inspected on account of infectious disease, and to these 732 visits were paid.

There were 44 canal boats inspected.

**Rainfall.**—The Medical Officer of Health submits the following tabular statement with reference to rainfall during each month in the year. It is prepared from daily readings of the instruments in the old park, and has been corrected and supplied by Mr. J. Dale.

1895.	Total depth in inches.	No. of days on which rain fell.	Greatest fall in 24 hours.	Average fall for 45 years.
January ...	2.72	24	0.48	2.79
February ...	0.33	3	0.22	2.17
March ...	3.70	18	0.57	2.57
April ...	2.35	10	0.99	2.19
May ...	0.76	6	0.39	2.39
June ...	4.82	12	2.57	3.36
July ...	5.75	20	0.95	3.53
August ...	3.89	19	0.78	4.03
September ...	0.86	7	0.31	3.47
October ...	2.85	16	0.40*	3.87
November ...	2.83	19	0.35	2.97
December ...	3.23	17	0.74	3.03
 Total ...	34.09	171	*Snow	36.32

On July 2nd, 2.37 inches of rain fell in 3 hours.

Mr. Dale remarks that the year 1895 was phenomenal for the cold during the first 9 weeks of the year, for the heat during summer and in September, for a dry spring and many severe gales.

## STALYBRIDGE.

## Municipal Borough.

Medical Officer of Health—DR. F. J. ROBERTS-DUDLEY.

Population at Census, 1891—26,783.

Estimated Population in middle of 1895—27,722.

Area in acres—3,135.

Birth-rate per 1,000 living—27·4.

Death-rate per 1,000 living—23·9.

Death-rate from seven principal Zymotic Diseases—4·2.

Deaths under one year to 1,000 births—247.

The constituent parts of this Urban District are as follow :—

		Area in Acres.		Population at Census.
Part of Dukinfield	...	248	...	11831
Part of Staley	...	2202	...	7674
Part of Ashton-under-Lyne	...	685	...	7278

During 1895, the number of births registered in the Borough was 761, and the number of deaths registered (including 32 deaths in the Workhouse, Ashton-under Lyne, of persons removed from the Borough, and 11 deaths in the Infirmary) was 665. Of the births 376 were males, and 385 were females. Of the deaths 346 were males, and 319 were females. The birth-rate is 0·6 below the mean birth-rate in 1892-94, and the death-rate is 2·2 above the mean death-rate in 1892-94.

There were 2 deaths from scarlatina, 5 from diphtheria, 6 from membranous croup, 10 from typhoid fever, 49 from measles, 13 from whooping-cough, and 33 from diarrhoea. The principal zymotic diseases death-rate was therefore exceptionally high. There was also one death from erysipelas, one from rheumatic fever, there were 48 deaths from phthisis, 148 from bronchitis and pneumonia, 40 from heart disease, and 11 from injuries.

The proportion of deaths among infants is large, 188 of those who died being under one year old. Thus, during the year about one in every four of those born died before completing their first year.

The Borough is divided into 4 wards—Lancashire, Staley, Dukinfield, and Millbrook Wards. The general death-rate and proportion of deaths among infants in these 4 wards were as follows :—

		Death-rate.		Deaths under 1 year to 1000 Births.
Lancashire Ward	...	20·4	...	240
Staley	”	23·0	...	241
Dukinfield	”	25·4	...	261
Millbrook	”	16·1	...	200

**Infectious Disease Notified.**—There were 103 cases of infectious disease notified, viz. :—2 small-pox, 32 scarlatina, 6 diphtheria, 7 membranous croup, 43 typhoid fever, and 13 erysipelas. The 2 small-pox cases were removed to the Isolation Hospital at Hyde, all the other cases were treated at home.

**Small-pox.**—The 2 cases of this disease reported occurred in different parts of the Borough. One was notified on January 21st, the other on July 18th, and they were both forthwith removed in the Borough cab (reserved for infectious cases) to the Hyde Hospital. The bedding, &c., used by the patients was burned, the houses from which they were removed were fumigated with sulphurous acid fumes, and all the inhabitants of the houses were re-vaccinated. The disease was not communicated to any one. This, the Medical Officer of Health points out, shows conclusively the value of isolation and the re-vaccination of all inmates of any house in which small-pox appears. Both these cases were tramps, one having come from St Helens, the other from Oldham, and neither of them were in Stalybridge more than one night.

**Typhoid Fever** was prevalent chiefly in the autumn. The excessive heat of the weather experienced in September followed by damp and rain in October may account for the increased prevalence of typhoid fever at this time. The Medical Officer of Health visited every house in which a case occurred and carefully investigated each case, but could find nothing to cause the disease. Of the 43 patients 4 were under 5 years of age ; and of the 10 who died 2 were under 5 years of age.

**Diarrhœa.**—The 33 deaths due to diarrhœa occurred for the most part in the late summer and autumn. Twenty-eight of those who died were under 5 years of age. One of the cases was certified “choleraic diarrhœa.” The Medical Officer of Health thinks that the high temperature of August and September and the damp and cold which succeeded it were the chief causes of the diarrhœa.

**Measles.**—The extent of the prevalence of this disease, as it is not notifiable, is unknown, but the rate of mortality therefrom was very high, higher than it has been in any year since 1887. All those who died from the disease were under 5 years of age. The number of deaths from measles (49) is equal to a death-rate of 1.76 per 1000 living.

**Preventing the Spread of Infectious Disease.**—In all cases of zymotic disease the houses are at once visited by the Medical Officer of Health and Inspector of Nuisances. Printed instructions for the prevention of the spread of the disease are left at the houses, disinfectants are supplied, the houses are fumigated with sulphur, and in severe cases the bedding and clothing are burnt. In addition the premises are examined to

ascertain if there be sanitary defects. On any defects being discovered, notice thereof is at once given both to the landlord and tenant, and to the Sanitary Committee. The latter immediately take measures to have the premises put in proper sanitary condition.

**Inspection.**—The Medical Officer of Health makes visits of inspection with the Inspector of Nuisances, and on many occasions they have been accompanied by the Chairman and members of the Sanitary Committee.

**Sewage Scheme.**—The Corporation are engaged in carrying out a large sewage scheme, which when complete ought to improve materially the health of the Borough, by removing all sewage from the river which runs through the centre of the town.

**Deficient Sanitary Accommodation.**—The Medical Officer of Health draws attention to the fact that there is no sanitary accommodation for the female clerks (3) at the Post Office.

**Sale of Food and Drugs Acts.**—Under these Acts 11 samples (6 of milk and 5 of butter) were submitted for analysis. All but one sample of milk were found to be pure, and this the Borough Analyst certified to be 50 per cent. deficient in cream. Proceedings were taken against the purveyor of this milk, but the Magistrates dismissed the case on payment of costs, because the purveyor had received a written guarantee of purity with the milk.

**Water-supply.**—The water supplied to the Borough is absolutely pure, and abundant in quantity.

**Insanitary Property.**—Two houses in Walmsley Street, two in Forester Street, two in Back Grosvenor Street, two in Stamford Street, one house in Kay Street, one in Caroline Street, one in Grosvenor Street, one in Hillgate and one in Acres Lane, in bad sanitary condition, have been put in proper order, under the superintendence of the Borough Surveyor.

**Lodging houses.**—The Medical Officer of Health has many times during the year visited all the registered lodging-houses within the Borough. He found them in a fairly sanitary condition.

**Inspector's Report.**—The Inspector reports that 446 nuisances have been abated during 1895, and 61 houses have been fumigated. There were 119 smoke observations taken, but the Sanitary Committee took no action with regard to smoke nuisances. The emptying of ashpits is supervised. During the year there were 6,296 emptyings. The number of loads of ashpit-refuse removed was 8,328 $\frac{1}{2}$ .

**Temperature and Rainfall.**—The Medical Officer of Health submits the following tabular statement showing the

mean temperature and depth of rainfall during each month in the year. The results were recorded at Stalybridge.

1895.	Temperature.				Rainfall 12 inches above ground.
	Maximum in Shade.	Minimum in Shade.	1 foot below ground.	4 feet below ground.	
January ...	35	27	32	39	2.70
February ...	34	24	30	36	0.47
March ...	46	35	37	37	3.57
April ...	54	39	42	43	1.41
May ...	63	45	48	49	1.11
June ...	66	48	51	53	2.57
July ...	65	52	52	56	7.26
August ...	67	53	52	56	4.44
September ...	70	52	51	57	1.52
October ...	50	38	39	52	3.56
November ...	50	40	37	46	2.51
December ...	42	33	32	43	4.37

## ALDERLEY EDGE.

### Urban District.

Medical Officer of Health—DR. G. W. DOWLING.

Population at Census, 1891—2,270.

Estimated population in middle of 1895—2,270.

Area in acres—589.

Birth-rate per 1000 living—24.2.

Death-rate per 1000 living—9.7.

Death-rate from seven principal Zymotic diseases—1.7.

Deaths under one year to per 1000 births—54.

The Urban District of Alderley Edge, is formed out of a part of Chorley, a part of Fulshaw and a part of Bollin Fee. The two latter include a formerly detached part of the parish of Pownall Fee. The area and population of these three portions of the district appear to be as follows:—

	Area in Acres.	Population at Census.
Part of Chorley ...	476	1838
Part of Fulshaw ...	113	155
Part of Bollin Fee ...		277

The number of births registered in the district, in 1895, was 55. The number of deaths registered in the district, in 1895 (excluding 3 deaths occurring in the district, but not belonging thereto) was 22. The mean birth-rate for the three

years 1892-94 was 22.4, and the mean death-rate for the same three years was 12.7. The birth-rate was therefore 1.8 higher and the death-rate 3.0 lower than the mean of recent corresponding rates.

Of the 22 deaths, 4 were due to zymotic disease, viz: 2 whooping-cough, 1 diphtheria and 1 diarrhoea. Three deaths were due to bronchitis and 2 to heart disease.

**Infectious Disease.**—There were 17 cases of infectious disease notified, viz: 1 diphtheria, 4 typhoid fever, 3 erysipelas, and 9 measles. Whooping-cough was prevalent during the late summer. There were a few cases of influenza, but these were of comparatively mild type.

**Rabies.**—A case of this disease occurred in the district, and unfortunately 2 people were bitten by the rabid animal. They were both sent to the Pasteur Institute in Paris, and the treatment they there received appears to have been successful.

**Isolation Hospital Scheme.**—The building of an Isolation Hospital at Mobberley, for the joint use of Alderley Edge, Knutsford and Wilmslow has been under consideration, but no definite decision has been arrived at.

**Water-supply.**—This is adequate, but the quality is hard. Samples from two pump-wells were submitted for analysis. One of these was found to be unfit for domestic use, and the well was closed.

**Dairies and Bakehouses** have been inspected and found in satisfactory condition. One new bakehouse has been built during the year.

**Slaughter-houses.**—A slaughter-house, which formerly belonged to the Macclesfield District, has been included in this district. It has been much improved. The flooring has been re-paved and cemented, the ventilation has been improved, a better water-supply has been obtained and the cesspool has been removed to a greater distance.

**Middens, &c.**—Several privy-middens have, during the year, been converted into water-closets and dry ash-pits.

**Sewers and Drains** continue to work well. An automatic flushing-tank has been put down. The effluent from the sewage farm has been of satisfactory character throughout the year.

## ALSAGER.

Urban District.

Medical Officer of Health—DR. H. CRUTCHLEY.

Population at Census, 1891—1912.

Estimated population in middle of 1895—2350.

Area in acres—2241.

Birth-rate per 1000 living—22·9.

Death-rate per 1000 living—14·0.

Death-rate from seven principal Zymotic diseases—2·1.

Deaths under one year to 1000 births—203.

In 1895, the number of births registered in the district was 54, and the number of deaths registered in the district was 33. Both birth-rate and death-rate are low. The number of deaths of infants under one year old was 11. Thus one out of every five born died before completing its first year. Of the 33 deaths a relatively large proportion were due to zymotic diseases, that is 2 were due to scarlatina and 2 to puerperal fever, one was due to diphtheria, one to erysipelas, one to whooping-cough, one to influenza, and one to diarrhoea. There were also 3 deaths from phthisis, 3 from bronchitis, and 4 from heart disease.

**Cases of Infectious Disease Notified.**—Twenty-nine cases of infectious disease were notified, viz.: 21 scarlatina, 2 diphtheria, 2 puerperal fever, and 4 erysipelas.

**Inspection.**—Periodical examinations have been made of house property in the district, including visits to slaughter-houses and bakeries; and such sanitary recommendations given thereon as appeared necessary.

**Sewers require Flushing.**—The Medical Officer of Health directed the attention of the District Council to the state of the sewers and advised a more efficient system of flushing. This has been ordered, and it is hoped an improvement will be effected.

**Isolation Hospital Provision** has been under consideration, during the year, but nothing definite has been decided upon.

## ALTRINCHAM.

Urban District.

Medical Officer of Health—DR. A. GOLLAND.

Population at Census, 1891—12,440.

Estimated population in middle of 1895—13,053.

Area in acres—662.

Birth-rate per 1000 living—30·9.

Death-rate per 1000 living—19·4.

Death-rate from seven principal Zymotic diseases—2·8.

Deaths under one year to 1000 births—175.

In 1895, the number of births registered was 404, and the number of deaths registered (excluding 5 deaths in the General Hospital of persons not belonging to the district) was 254. The mean birth-rate for the three years 1892-94 was 29·2, and the mean death-rate for the same three years was 18·3. Thus in

1895 the birth-rate was 1·7 above the mean, and the death-rate was 1·1 above the mean of recent years. Of the 254 deaths 71 were among infants under one year old, and 73 were among persons 65 years old and upwards.

The number of deaths from the seven principal zymotic diseases was 37, viz. :—1 scarlatina, 2 typhoid fever, and 34 diarrhoea. There were also 2 deaths from puerperal fever, 1 death from rheumatic fever, 1 from erysipelas, 14 deaths from phthisis, 46 from bronchitis or pneumonia, 19 from heart disease, and 6 from injuries.

**Cases of Infectious Disease Notified.**—Thirty-nine cases of infectious disease were notified, viz. :—25 scarlatina, 3 diphtheria, 3 typhoid fever, 2 puerperal fever, and 6 erysipelas.

**Scarlatina.**—The 25 cases occurred in 21 houses. Eighteen of these cases were removed to Lloyd's Fever Hospital for isolation and treatment, where 17 recovered and 1 death took place. The average time the cases remained in hospital was  $43\frac{1}{5}$  days.

**Diphtheria.**—The 3 cases of this disease notified all recovered. Two were removed to the Fever Hospital.

**Typhoid Fever.**—Of the 3 cases notified 1 was removed to the Fever Hospital and recovered. The other 2 cases terminated fatally.

**Diarrhoea.**—There having been comparatively few cases of scarlatina and only 1 death, and no death from either measles or whooping-cough, the zymotic death-rate would have been low but for the high mortality from diarrhoea. Of the 34 deaths 29 occurred during the third quarter of the year, and 29 were of children under 5 years of age. The average annual number of deaths from diarrhoea during the 14 years preceding 1895 was 8, and the highest record in any of these years was 16 in 1882. Thirty-four deaths from diarrhoea is therefore something very exceptional. It is equal to an annual death-rate of 2·6. In cases where the symptoms had been choleraic care was taken to obtain speedy burial, and the premises where the cases occurred were disinfected.

**Phthisis.**—There is a great reduction in the number of deaths from this disease. The number registered in 1895 was 14; the annual number of deaths from phthisis in the five years 1890-94 averaged 26.

The County Medical Officer of Health after conference with the Medical Officers of Health for Altrincham and Bowdon, reported with reference to the number of cases of phthisis in these districts, and made certain recommendations, which were approved by the County Council in November.

**Bronchitis and Pneumonia** were certified as the causes of deaths in 46 cases. Half of these deaths occurred during

the very severe weather which prevailed in the first quarter of the year. This is rather a high mortality, being equal to a death-rate of 3.52 per 1000 living.

**Hospitals.**—In the General Hospital 245 cases were treated during the year, and 20 terminated fatally. Five of the 20 deaths were of strangers brought into the district. At Lloyd's Fever Hospital the vacancy caused by the marriage of the matron has been filled up, and the appointment made has proved satisfactory. Among the 21 cases treated in hospital, there was (as already stated) one death. At the close of the year the Fever Hospital was empty.

**Water-supply.**—The water supplied from Manchester has been analysed during the year as usual, and found satisfactory.

**Inspection.**—Many visits of inspection for sanitary purposes have been made throughout the district. The Medical Officer of Health notes with satisfaction the paving and making of many streets and passages which have been a standing nuisance.

St. Margaret's Schools were inspected and reported on, and have since been altered to suit the requirements of the District Council.

**Common Lodging-houses** were duly inspected during the year. In all 45 visits of inspection were made.

**Slaughter-houses** were also kept under supervision—44 visits of inspection were made. Two cases of slaughtering on unlicensed premises were reported and dealt with.

**Dairies and Bakehouses.**—All cow-sheds and milk-houses were visited during the year and found in satisfactory condition. All bakehouses were also visited and found satisfactory.

**Workshops.**—Visits of inspection have been made to all cabinetmakers, dressmakers, and other workshops. They were found fairly satisfactory, except 23, which remain to be dealt with.

**Canal Boats.**—Seventy-five visits of inspection were made to 72 canal boats. The certificates of registration showed there was accommodation on board for 253 persons. The boats were occupied by 106 males, 27 females, and 24 children under 12 years of age. There was no case of sickness on board any of the boats, and all but 6 of the boats had their cabins clean and in order.

**Nuisance Abatement.**—Very many nuisances were abated in 1895, a considerable proportion of the work being done without the serving of formal notices. Eighty-five yards were paved and repaired, 27 yard-drains or cellar-drains were opened and cleaned, and 227 yard-drains or area-drains were

trapped and put in order. Twenty-two privies were reconstructed, 13 were provided and 14 ordered to be cleansed. Twenty-one ash-pits were roofed and ventilated, 24 were provided or put in order, and 220 were fitted with doors. Eight water-closets were provided, 18 rain-pipes were renewed, 4 sink waste-pipes were made to deliver on gully-traps, and 5 houses were provided with water-supply. Five nuisances from overcrowding were abated. Six cases of nuisance from swine-keeping or fowl-keeping were dealt with, and in 6 cases the removal of fish-offal, &c., was obtained. Nineteen cases in which occupiers were reported for letting their chimneys get on fire, were dealt with.

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## ASHTON-UPON-MERSEY.

### Urban District.

Medical Officer of Health—DR. C. J. RENSHAW.

Population at Census, 1891—4234.

Estimated population in middle of 1895—5000.

Area in acres—1622.

Birth-rate per 1000 living—25·4.

Death-rate per 1000 living—13·8.

Death-rate from seven principal Zymotic diseases—1·6.

Deaths under one year to 1000 births—133.

This is the first Report of the new Urban District of Ashton-upon-Mersey, the area it contains having hitherto formed a part of the Rural District of Altrincham, now known as the Rural District of Bucklow.

Though the District was not constituted and the Medical Officer of Health not in office at the beginning of 1895, the Report deals with the whole year.

The number of births registered in the district was 127, and the number of deaths registered in the district was 69. Both birth-rate and death-rate are low. Seventeen of the deaths were of infants who had not completed their first year.

Of the 69 deaths, 8 were due to zymotic diseases, viz : 1 diphtheria, 1 typhoid fever, 1 whooping-cough, and 5 diarrhoea. Three deaths were ascribed to phthisis, 3 to bronchitis or pneumonia, and 11 to heart disease.

**Cases of Infectious Disease notified.**—Twenty-two cases of infectious disease were notified, viz : 10 scarlatina, 5 diphtheria, 2 typhoid fever, and 5 erysipelas.

**Scarlatina and Diphtheria.**—There were but a few isolated cases of scarlatina during the year, and care was taken to prevent its spread. The 5 cases of diphtheria notified, occurred in August, following on several cases of severe sore throat. “As to how the first case arose,” the Medical Officer of

Health writes, "it is difficult to judge, unless it was wind-carried ; as the houses were well drained, and the cases did not arise in the same sewer lines, it is probable that most of the cases after the first were from contagion." Most of the boys attacked had drunk from the same tap of water, and so may have taken the disease from each other. One of the cases proved fatal.

**Measles and Influenza.**—In December, 1894, and January, 1895, measles was epidemic in the locality, and since this occasional cases have arisen. In January there were a few cases of influenza, and on the subsidence of the long frost in March, there were many severe cases. In May the disease disappeared.

**Water-supply.**—The water supplied to the district from the Cheshire Water Works is very good.

**Drains.**—A nuisance from drains in Harboro' Road has been investigated and dealt with. In new buildings care is taken to have the drains laid outside the houses.

**Sewage Treatment.**—The beds where the sewage is treated are acting well, the outflow therefrom being regularly examined. The Medical Officer of Health strongly advises increasing the size of these beds, in view of the requirements of an increasing population.

**Inspection.**—Cottage property, dairies, slaughter-houses, &c., have been inspected, and recommendations made. No over-crowding has been reported.

**Additional Ground provided for Interments.**—The space for interments having been found inadequate, the Rev. Mr. Hertzberg has increased the size of the burial ground near St. Martin's church.

## HIGHER BEBINGTON.

### Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—1,421.

Estimated population in middle of 1895—1,535.

Area in acres—699.

Birth-rate per 1000 living—25·4.

Death-rate per 1000 living—9·1.

Death rate from seven principal Zymotic diseases—0·6.

Deaths under one year to 1000 births—25.

The area of the whole of Higher Bebington is 944 acres, but 245 of these are included in the County Borough of Birkenhead, leaving 699 acres in the Urban District of Higher Bebington.

In 1895, the births registered in the district numbered 39, the deaths registered in the district numbered 14. The death-rate is very low and the proportion of deaths among infants very small.

There was one death from scarlatina and one from heart disease, and there were 5 deaths from phthisis and 4 from bronchitis.

There were 17 cases of infectious disease notified, viz.:— 15 scarlatina, 1 diphtheria and 1 erysipelas. The case of diphtheria and 5 of the scarlatina cases were removed to the Hospital. All the cases were duly investigated and proper precautions taken to prevent as far as possible the spread of disease. During the prevalence of scarlatina the School was closed for several weeks on the advice of the Medical Officer of Health.

Substantial progress is being made in removing insanitary conditions in good class houses as well as in the dwellings of the poor. In April and July the Medical Officer of Health made general inspection of the district and advised the Inspector and subsequently the District Council on various points of detail in regard to the carrying out of sanitary work. Later in the year he met a Sub-Committee of the Council in the village, more especially as to the conversion of privies into water-closets (under circumstances presenting some difficulty) in Village Road.

The district is supplied throughout with water from the Wirral Water Works.

The district is on the whole well sewered, and the sewers are flushed as required.

Mr. Lloyd, the Inspector, reports a considerable number of nuisances abated during the year, including 3 nuisances from overcrowding and 2 privies converted into water-closets.

Eleven dairies and dairy-farms were inspected twice and found in good sanitary condition. The premises were lime-washed in April and October. The 2 bakehouses in the district were also twice inspected, and found clean and in good condition.

There are no lodging-houses in the district, and no slaughter-houses.

The privies and ash-pits are emptied by a contractor engaged by the District Council. The emptying is done once a month.

The district is contributory to the Joint Hospital Board, thus having accommodation for isolating cases of infectious disease.

## LOWER BEBINGTON.

### Urban District.

Medical Officer of Health—DR. G. A. KENYON.  
Population at Census, 1891—5,216.

Estimated population in middle of 1895—5,529.

Area in acres—1,054.

Birth-rate per 1000 living—36.3.

Death-rate per 1000 living—18.9.

Death-rate from seven principal Zymotic diseases—3.0.

Deaths under one year to 1000 births—129.

In 1895, the births registered in the district numbered 201, the deaths (including 3 which occurred in the Isolation Hospital and 6 in the Workhouse, belonging to the district) numbered 105. The birth-rate is 5.9 above the mean birth-rate in 1892-94; and the death-rate is 3.4 above the mean death-rate in 1892-94. The proportion of deaths among infants is not exceptionally large.

There were 17 deaths from the principal zymotic diseases, viz: 2 scarlatina, 1 diphtheria, 1 typhoid fever, 1 measles, 1 whooping-cough and 11 diarrhoea. There were also 6 deaths from influenza, 7 from phthisis, 13 from bronchitis or pneumonia, 8 from heart disease and 3 from injuries.

There were 62 cases of infectious disease notified, viz: 43 scarlatina, 7 diphtheria, 11 typhoid fever and 1 erysipelas. Of these 36 cases of scarlatina and 6 cases of typhoid fever were removed to the Hospital. The isolation in hospital of upwards of two-thirds of all the cases notified must have had a marked effect in diminishing the risk of infection. The cases occurred at intervals throughout the year, and in scarcely a single instance was there recurrence of disease in a house after removal of the notified case to hospital. Mr. Young, the Inspector, attended to the disinfection of the premises infected, and the removal of any sanitary defects discovered. When patients were not removed to hospital, satisfactory isolation at home was effected. The cases of infectious disease notified did not appear to be in any way connected with the milk-supply or water-supply.

The Medical Officer of Health visited the district from time to time during the year, and made general and special inspections, and reported thereon. He is pleased to note that the action taken for removing the nuisance in the Spital Boundary Brook has been successful, and that legal proceedings of a formidable character have thus been averted.

In October the Medical Officer of Health gave evidence before the Magistrates in support of a prosecution undertaken, by order of the District Council, to compel the owners to convert certain privies into water-closets. The prosecution was successful in obtaining the order asked for, but subsequent action on the part of the defendant led to delay in carrying out the work.

Very considerable progress has been made during the year, in obtaining sanitary improvements. Mr. Young, the Surveyor and Inspector, reports that 60 privies have been converted into water-closets in the course of 1895, and notices are out for the conversion of other 37, the owners having already consented to do what is required.

A new sewer is being laid in Sea View South, and a new sewer has been laid in Cleveland Place. The sewer at the rear of Woodhead Street has been reconstructed.

The sewers throughout the district are under constant supervision, and are flushed fortnightly by a portable flushing-tank. In the less accessible places valves have been recently fitted, and a hose is being procured to convey water from the mains.

Privies and ashpits are emptied in rotation every month, by the employés of the District Council. The house-refuse from premises provided with movable ashbins (168 in all) is collected once a fortnight.

Forty notices have been served and complied with, for the repair and cleansing of foul drains, nuisances in back-yards, &c.

No case of overcrowding has been reported.

Two owners summoned for not complying with notices to convert privies into water-closets were ordered to do the work ; in a third case the summons was withdrawn.

Milk-houses and slaughter-houses continue to receive careful attention, and are generally well kept.

The district is supplied with excellent water from the Wirral Water Works, and efficiently sewered.

The district is contributory to the Joint Hospital Board, and thus able to isolate infectious cases.

## BOLLINGTON.

### Urban District.

Medical Officer of Health—DR. J. ALLEN.

Population at Census, 1891—3913.

Estimated population in middle of 1895—3913.

Area in acres—494.

Birth-rate per 1000 living—21.7.

Death-rate per 1000 living—19.9.

Death-rate from seven principal Zymotic diseases—2.0.

Deaths under one year to 1000 births—164.

In 1895, the number of births registered in the Bollington Urban District was 85, and the number of deaths (exclusive of five occurring in the district of persons not belonging thereto) was 78. The birth-rate was 5.9 below the mean birth-rate in 1892-94, and the death-rate was 4.4 above the mean death-rate in 1892-94. This unsatisfactory record is difficult to account for. Want and poverty may in part account for it. The Medical Officer of Health points out that one of the largest mills in the district has been standing idle during the whole year throwing a good many people out of work. He thinks also that attacks of influenza in previous years have enfeebled

the constitution of many. The epidemic of measles, in the latter half of the year, increased the deaths among children.

Of the 78 deaths, 8 were due to the chief zymotic diseases (6 measles, 1 typhoid fever, 1 diarrhoea), 3 were due to phthisis, 22 to bronchitis or pneumonia, and 5 to heart disease. One death was due to injuries.

**Cases of Infectious Disease Notified.**—There were 20 cases of infectious disease notified during the year, viz. : 11 scarlatina, 4 typhoid fever, 1 continued fever, and 4 erysipelas. There is no Isolation Hospital for the district, so all these cases were treated at home. All terminated in recovery, except one of the typhoid fever cases.

On receiving notification of a case the Medical Officer of Health at once sent the Inspector, with a supply of disinfectants, to give the necessary instructions, make enquiries and examine into the sanitary condition of the dwelling. He also visited himself, and as soon as the patient was well gave orders for the sick room to be sulphured.

**Scarlatina.**—The first case occurred in July, in Adlington Road, but the source of infection could not be ascertained. It was not possible to keep this child properly isolated—the front room of the parents' cottage was used as a draper's shop. A second case occurred in the same row of houses, infected from the first case. The next two cases were in a house in Wellington Road, in September. One of these patients had gone to the shop in Adlington Road to make a purchase. She became infected and in a few days transmitted the disease to one of her brothers. The remaining cases (all but one being children) appeared in October, November and December. They did not appear to be in any way connected with the first 4, and their origin could not be traced. They attended the same school.

**Typhoid and Continued Fever.**—The first case recorded was in February, the patient being a young man in Adlington Road, who came home ill from Manchester, where he had been working for some time past. He died on February 21st. The second case, the nature of which was at first doubtful, occurred in Inglesby Road, in August. The patient was employed in the day time in Macclesfield, and probably became infected there. The next two cases (brother and sister) occurred in the same house in Defiance Street, in November. The earlier of these was a young man who took ill while residing in Manchester. The nature of his disease was not recognized till he reached his parents' house at Bollington. His sister assisted his mother in nursing him and became infected. The case notified in December was that of a young girl living with her parents who kept a beer-house in Princess Street. The Medical Officer of Health attributes this to foul exhalations from the grids and drains (which were defective) near the house.

**Erysipelas.**—All the 4 cases notified were of mild character and soon recovered. Three of the sufferers were adults, one was an infant.

**Measles.**—An outbreak of this disease commenced early in August and lasted till the end of November. During August and September, when the weather was warm, though the disease was found in almost every part of the district, no deaths occurred; but directly the wintry weather of October set in, lung complications made the disease especially dangerous; so that 5 deaths occurred in October and 3 in November. Of these 8 deaths, 2 were of persons not belonging to the district. All who died were under 5 years of age. As measles is not notifiable there is no way of correctly estimating the number attacked, but it must have been very large. It is five years since a similar epidemic appeared in the district. The most that could be done to check the spread of the disease was to advise that all children coming from infected houses should be kept away from school. The Medical Officer of Health thanks the school managers and teachers for their willing assistance.

**Influenza.**—Several sharp attacks of influenza were met with in the district, more particularly among aged persons, during the first quarter of the year. One case ended fatally in March.

**Schools Improved.**—In his Report for 1893 the Medical Officer of Health drew attention to the over-crowded and insanitary state of the Church Day Schools. These have now been enlarged and considerably improved; but the playgrounds remain small, and there are too many trees about.

**Proposed Recreation-ground.**—On March 6th the Medical Officer of Health suggested to the Council the desirability of purchasing a certain field, centrally situated, to be used as a children's playground. At the same time he pointed out that this would permit of the construction of a new road extending from Park Street to Lord Street.

**Improved Building Bye-Laws Needed.**—The present bye-laws have been in force since the old Local Board was first constituted, and require careful revision.

**The Private Street Works Act, 1892.**—The Medical Officer of Health recommends the adoption of this Act. He thinks it would be advantageous and useful.

**Water-supply.**—Satisfactory progress has been made with the water-works during the year. On August 12th Mr. Radford stopped the boring at 200 feet, as he believed there would be sufficient water at that depth.

**Cemetery Needed.**—Much difficulty has been experienced in trying to acquire an eligible site for a public burial-ground. The Medical Officer of Health suggests that the Council should select two or three suitable plots of ground, and then obtain

compulsory purchasing powers. In making such selection the chief points to be kept in view are as follows:—(1) Area enough to meet the prospective requirements of the district and neighbourhood for the next 70 or 100 years; (2) Convenient situation and easy access; (3) Sufficient distance from any dwelling-house.

**Smoke Nuisance.**—Attention is directed to frequent smoke nuisances. At a few of the mills provision has already been made for consuming smoke, and the Medical Officer of Health is informed that it has resulted in a considerable saving of coal. In a complaint of smoke nuisance from Bollington, heard by the County Justices at Macclesfield, on December 24th, 1894, in which the Medical Officer of Health gave evidence, an order was made for the discontinuance of the nuisance, and this has been complied with.

**Inspector's Report.**—The Inspector reports that he makes inquiries with reference to infectious cases notified, sees to disinfection and inspects the premises. He has specially visited and inspected 30 lots of property and reported on the same. He has seen to the abatement of 20 nuisances reported or discovered—for the most part defective drains and ashpits. He has supervised the emptying of ashpits and removal of night-soil. The number of loads removed was 570.

**Dairies, &c** —The dairies and milk-shops, 17 in number, have been inspected. They were found clean and well kept.

**Slaughter-houses.**—The four slaughter-houses in the district have also been inspected and found clean and in order. One has been newly erected.

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## BOWDON.

### Urban District.

Medical Officer of Health—DR. MOTHERWELL DUGGAN.

Population at Census, 1891—2792.

Estimated population in middle of 1895—2840.

Area in acres—850.

Birth-rate per 1000 living—14·0.

Death-rate per 1000 living—11·6.

Death-rate from seven principal Zymotic diseases—0·7.

Deaths under one year to 1000 births—125.

Though the Medical Officer of Health only received his appointment in March, his Report deals with the whole year.

The number of births registered in this district was 40, and the number of deaths was 33. The mean birth-rate for the three years 1892-94 was 14·4, and the mean death-rate for the same three years was 10·5. The birth-rate was, therefore, a

little lower and the death-rate a little higher than the mean of recent years.

The Medical Officer of Health attributes the low death-rate, year after year (1) to the healthy situation of Bowdon (2) to the sandy subsoil on which it is built, and (3) to the excellent and constant supply of water from the North Cheshire Water Company.

He notes that the causes of deaths as registered in the District are not so definite as they might be, or they would be of more use for statistical purposes.

During the first three months of the year there was a wide-spread epidemic of influenza, but it was not as severe or fatal as previous epidemics. However, 15 deaths out of a total of 33 occurred in the first quarter of the year. In December there were no deaths.

The only deaths ascribed to any of the seven principal zymotic diseases were 2 from diarrhoea. One death was certified as due to influenza, 1 as due to rheumatic fever, and 3 were certified as due to phthisis.

During his term of office the Medical Officer of Health has inspected the district, and finds the sanitation, on the whole, satisfactory. Exception must be taken in respect of the Bowdon Vale portion of the district, where the compound midden system prevails. Here the ashpits are mostly in bad repair, and some of the pantries adjoining are without rainspouts. In a back street, behind Shaw Cross houses, the level has been raised a foot by deposits of ashes and refuse. In Mr. Hall's property, pig-sties are too near the dwelling-houses. In property in Priory Street, the drains require to be trapped, and the ashpits to be thoroughly repaired.

The Medical Officer of Health recommends the District Council to undertake the emptying of all ashpits, and to have the work done regularly. At present the tenants trust to farmers to do this work, who do it at their convenience, and consequently, ashpits remain full for weeks. Water-closet accommodation ought to be enforced in all new cottages in the district.

The water flowing from the willow-beds at the sewage farm is reported by the Inspector of the Mersey and Irwell Joint Committee to be of fair quality.

An inquiry was made into the advisability of discontinuing the burials in Bowdon parish churchyard, and it was decided that there was at present no reason for requiring this.

## BREDBURY AND ROMILEY.

Urban District.

Medical Officer of Health—DR. F. CANT.  
Population at Census, 1891—5821.

Estimated population in middle of 1895—6009.

Area in acres—3725.

Birth-rate per 1000 living—31·7.

Death-rate per 1000 living—18·1.

Death-rate from seven principal Zymotic diseases—3·3.

Deaths under one year to 1000 births—157.

Bredbury (including Woodley, Hatherlow, Castle Hill and Bredbury Green) has an area of 2536 acres, and the population at the Census was 3901. Romiley (including Greave) has an area of 1189 acres, and the population at the Census was 1920. The estimated population of Bredbury is 4000, and the estimated population of Romiley is 2009.

In Bredbury there were 126 births and 78 deaths (excluding 4 not belonging to the district and including 2 belonging to the district) registered ; and there were 91 cases of infectious disease notified, of which 7 were removed to hospital.

In Romiley there were 65 births and 31 deaths registered ; and there were 14 cases of infectious disease notified, of which 1 was removed to hospital.

In Bredbury the birth-rate was 31·5, and the death-rate 19·5. In Romiley the birth-rate was 32·3, and the death-rate was 15·4.

**Infectious Disease.**—The cases notified in Bredbury were as follows:—73 scarlatina, 4 diphtheria, 1 membranous croup, 6 typhoid fever, and 7 erysipelas. The cases notified in Romiley were as follows:—9 scarlatina, 3 diphtheria, 1 membranous croup, and 1 typhoid fever. Eight cases of scarlatina were removed to the Hyde Hospital—7 (two of which proved fatal) being from Bredbury and 1 from Romiley.

The 78 deaths recorded for Bredbury include 17 from the chief zymotic diseases, viz. :—5 scarlatina, 1 croup, 1 typhoid fever, 6 measles, and 4 diarrhoea. There were also 4 deaths from influenza, 1 from erysipelas, 5 from phthisis, 15 from bronchitis or pneumonia, and 2 from heart disease.

The 31 deaths recorded for Romiley include 3 from the chief zymotic diseases, viz. :—1 diphtheria, 1 croup, and 1 measles. There were also two deaths from phthisis, 5 from bronchitis or pneumonia, and 1 death from heart disease.

In Bredbury the death-rate from the seven principal zymotic diseases was 4·2, and in Romiley the death-rate from the seven principal zymotic diseases was 1·4.

**Scarlatina.**—Some of the scarlatina cases must be regarded as representing a continuance of the epidemic of 1894. However, the majority of the cases in 1895 were reported in July and August. In the last quarter of the year there were only 5 cases reported. Thirty-four of the 82 scarlatina patients were under 5 years of age.

**Diphtheria.**—All the seven diphtheria cases reported were separated both as regards time and locality. Every precaution was taken to prevent spread of the disease. Three of the patients were under 5 years of age.

**Typhoid Fever.**—The 7 cases of this disease reported were also scattered, and precautions were taken to prevent the fever from spreading. Three of the patients were under 5 years old.

**Measles.**—In October measles broke out very suddenly among the children attending Woodley School. As soon as each case came to the knowledge of the Medical Officer of Health, the children in the infected house were kept from school and this, combined with care of the sick, was sufficient to check the disease. In November a similar epidemic broke out in Bredbury and spread rapidly. An effort was made to check it in the same way, but it was soon evident that there were cases of which the Medical Officer of Health was not aware. Parents and others thought lightly of the disease, and children from infected houses were not kept from school. Fresh cases were noticed daily, and the Medical Officer of Health was obliged to recommend the closure of St. Mark's School on December 3rd. As the Christmas holidays followed, the children were away from school for over a month, during which the school was washed and cleaned. In a fortnight after the closing of the school there was a remarkable diminution of fresh cases, and after three weeks no more fresh cases were heard of. Efforts were made to get the sick isolated at home, and printed as well as verbal instructions were given as to the management of the patients. The disease was of a severe type, and 7 deaths were certified as due to measles or other diseases brought on by it. Five of those who died were under 5 years of age.

**Notification of Infectious Disease.**—This has been much more satisfactory than in any previous year since it was made compulsory. Early in the year placards on the subject were issued by the District Council; and the working portion of the Infectious Disease Notification Act, together with a few rules to be observed by persons having charge of infectious cases at home, were printed in book form, and given away by the Medical Officer of Health or Inspector whenever cases came to their knowledge. These steps were effective in making the requirements of the Act generally known, and in obtaining compliance therewith.

**Water-supply.**—The severe and prolonged frost in January, February and March interfered very much with the water-supply in some portions of the district, the mains being frozen, and various expedients had to be resorted to. In many places fires were kept up over the parts suspected of being frozen until the supply was restored; in others the mains were tapped, and a man was put in charge at stated times each day

to supply all those who were short of water. After the frost many leakages were discovered ; and it was not till the middle of the summer that all these were repaired and the usual supply restored. The quality of the water is good, and the mains are flushed monthly to clear them of sediment, &c. The town's water has been laid on to 55 houses during the year.

**Nuisance Abatement.**—Attention has been given to this almost daily. The Medical Officer of Health and Inspector make visits of inspection all over the district, and draw attention to any insanitary defects discovered. Many nuisances are thus abated without further trouble. In respect of all others, formal notices requiring the abatement thereof are served. In 1895 the Inspector reports that 61 notices were served—in the case of 41 the nuisances were satisfactorily abated ; in the case of 8, promises had been obtained that the work needed would be done ; in the case of the remaining 12 the matter was still in hand at the close of the year. Thirty-eight ashpits, reported as defective, were repaired and covered.

**Dairies and Cow-sheds.**—These (55 in all) were visited by the Inspector four times during the year. The proper keeping of dairy cows is most important, and the District Council in order to secure this have made regulations similar to those recommended by the Local Government Board, except that 600 cubic feet of air-space is demanded for each cow instead of 800 cubic feet. No new cowshed will in future be allowed to have less than 600 cubic feet of free air-space for each cow, while as many as possible of the old cowsheds will be altered and brought up to this standard.

**Slaughter-houses.**—These have been visited by the Inspector about once a week, and it is satisfactory to find that they are being kept in much better condition than formerly. In one instance proceedings were taken against a butcher for continuing to slaughter cattle on premises which were declared unfit for registration, and a conviction was obtained.

**Unsound Meat.**—The District Council also took proceedings against a butcher for exposing, in his shop, meat unfit for human food, and obtained a conviction.

**Main Drainage.**—The main drain has been completed in Romiley as far as Birch Vale. The length between the out-fall works and Hatherlow is being proceeded with, and about two-thirds are done. Sixty-eight houses have been connected with the finished portion, and notices have been served on the owners of the rest of the houses in the locality to connect. The District Council have completed their plans for the separate sewerage of the principal portions of their district, and these plans are now before the Local Government Board. An enquiry was held on September 30th, at which plans for the enlargement of the precipitation tanks at Otterspool Bridge, and the

main drainage of the Bredbury portion of the district, were submitted for approval. The Council has decided to treat the whole of the sewage at one outfall works.

## BROMBOROUGH.

### Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—1662.

Estimated population in middle of 1895—1826.

Area in acres—1616.

Birth-rate per 1000 living—16·4.

Death-rate per 1000 living—10·9.

Death-rate from seven principal Zymotic diseases—1·1.

Deaths under one year to 1000 births—66.

The area of this district, including Bromboro' Pool, was (according to the Census) 1555 acres. Recently 61 acres were taken from Poulton-cum-Spital, in the Wirral Rural District, and added to Bromborough. The area of the Urban District is therefore at present 1616 acres.

In 1895, the births registered in the district were 30, and the deaths (including two occurring outside the district among persons belonging thereto) were 20. The birth-rate is 10·1 below the mean birth-rate in 1892-94; and the death-rate is 0·3 below the mean death-rate in 1892-94. The proportion of deaths among infants is very small.

The deaths include 1 from scarlatina and 1 from typhoid fever. There were also 3 deaths from phthisis, 2 from bronchitis and 2 from heart disease.

Twenty six cases of infectious disease were notified, viz. : 20 scarlatina, 4 typhoid fever and 2 diphtheria. All the scarlatina cases were removed, 15 to the Hospital at Spital and 5 to the Pool Works Hospital. Three of the typhoid fever cases were removed, 2 to the Hospital at Spital and 1 to the Chester Fever Hospital—the patient's permanent home being in Chester. The diphtheria cases, being in large houses, were successfully isolated at home.

Nearly all the scarlatina cases occurred during the last four months of the year. From the end of February to the beginning of September there was not a single case notified. The cases were scattered over different parts of the district.

All the cases of infectious disease notified were duly investigated, and disinfection attended to.

The Medical Officer of Health visited the district a number of times, and reported thereon for the guidance of the District Council, on matters of detail in connection with the ordinary sanitary work.

The proprietors of the Magazines Village duly carried out the alterations recommended in the last Annual Report.

Water is now supplied there and to other parts of the district by the West Cheshire Water Company.

The sewers are flushed twice a week. A portion of them appear to require relaying, and it is proposed to do this.

Mr. Gittins, the Inspector, is prompt and attentive to his duties. He reports that 4 privies have been converted into water-closets, and 18 combined privy-ashpits have been filled up to the ground level. He makes a house-to-house inspection of the district, taking a section monthly. No prosecutions in respect of nuisances were undertaken. Only one case of over-crowding came to the knowledge of the Inspector. It was abated.

There are 7 registered milk-sellers in the district and 2 bakehouses. These are all inspected.

The ashpits, &c., are emptied by a contractor, on receiving notice to do this.

## BUGLAWTON.

### Urban District.

Medical Officer of Health—DR. P. M. DAVIDSON.

Population at Census, 1891—1382.

Estimated population in middle of 1895—1382.

Area in acres—2911.

Birth-rate per 1000 living—29·6.

Death-rate per 1000 living—18·8.

Death-rate from seven principal Zymotic diseases—4·3.

Deaths under one year to 1000 births—195.

During 1895, the number of births registered was 41, and the number of deaths registered (including 4 which took place at the Union Workhouse of persons belonging to the district) was 26. Birth-rate and death-rate are above the mean in recent years. The proportion of deaths of infants under one year old is large, especially in a semi-rural district like Buglawton. On examining the causes of these deaths, however, it will be found they are not such as can be attributed to defective sanitation, or to neglect. Two of the infants died from whooping-cough, one from measles, one from being prematurely born, and one from disease of the spine, surviving its birth only six hours.

It was noted in the last Annual Report that the deaths of females were nearly three times as numerous as those of males, the explanation being that women are almost exclusively employed in the factories, so that the number in the district is always much larger than the number of men. In 1895 (excluding the deaths in the Workhouse) only one adult male person died and 10 women.

Of the deaths 1 was due to scarlatina, 1 to measles and 4 were due to whooping-cough. Thus the chief zymotic diseases death-rate was exceptionally high. There were 2 deaths from influenza, including 1 in the Workhouse.

**Infectious Disease.**—The cases of infectious disease coming to the knowledge of the Medical Officer of Health include 32 cases of scarlatina, 29 cases of whooping-cough, and a great many cases of measles.

**Scarlatina** was prevalent during the first three quarters of the year, but especially in the first quarter, when the schools were closed for several weeks, as it was evident that the disease was being spread through their influence. This measure seemed to have the effect of arresting the spread of the disease, for no fresh cases occurred until some days after the schools were re-opened, when again children attending school were infected. Of course children from infected houses were kept from school, and by the end of September the outbreak had come to an end. Eighteen of the scarlatina patients notified were under 5 years old.

**Measles.**—There were two rather extensive outbreaks of measles in the year, but the disease was not of a severe type, and the weather was mild at the time.

**Whooping-cough** was prevalent at the beginning of the year, and considering it was not an extensive outbreak it was very fatal—4 dying of the disease.

**Influenza** was epidemic in March and April, but the type of the disease was comparatively mild.

**Imperfect Notification.**—The Infectious Disease Notification Act has now been in force for three years, but all the cases of notifiable disease are not disclosed by its means as they ought to be. Indeed notifications from medical practitioners are few and generally received too late to be of much use. One medical practitioner seldom notifies his cases though he may have been treating them a considerable time, and seems only to think of doing so when death occurs. Such notifications, of course, are useless. This neglect is a very serious impediment in dealing effectually with outbreaks of infectious disease. Complaints have already been made with regard to this matter, and the Medical Officer of Health hopes that on the next occasion of default the Authority will take steps to enforce compliance with the provisions of the Act.

**Water-supply.**—The most important event of the year was the completion of the Water Works, which has placed an abundant supply of excellent water at the disposal of the inhabitants.

**General Sanitary Work.**—The general sanitary work of the district was well attended to, and the ashpits and privies were kept in good order.

The Medical Officer of Health inspected the whole district several times in the course of the year.

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## CHEADLE AND GATLEY.

### Urban District.

Medical Officer of Health—DR. J. H. GODSON.

Population at Census, 1891—7,782.

Estimated population in middle of 1895—8,262.

Area in acres—5,812.

Birth-rate per 1000 living—25·0.

Death-rate per 1000 living—15·1.

Death-rate from seven principal Zymotic diseases—2·1.

Deaths under one year to 1000 births—96.

This Urban District was constituted by a Local Government Board Order, which came into operation in August, 1886. It was formed by uniting Stockport Etchells (including Gatley) with part of Cheadle (including Cheadle Hulme, Outwood, and part of the former parishes of Cheadle Bulkeley and Cheadle Moseley). The area and population at Census of these two portions of the district are as follows:—

	Area in Acres.	Population at Census.
Stockport Etchells.....	1572 .....	1444
Part of Cheadle.....	4240 .....	6808

From the population of Stockport Etchells should be deducted 156 enumerated in the Barnes Convalescent Hospital, and 314 enumerated in the Royal Lunatic Asylum, thus making the population of Stockport Etchells at the time of the Census 974.

In 1895 the number of births registered in the whole district was 207, and the number of deaths registered in the whole district (exclusive of those in the Convalescent Hospital and Lunatic Asylum) was 125.

The number of deaths from zymotic diseases was 18, viz: 3 scarlatina, 1 diphtheria, 2 membranous croup, 2 typhoid fever, 4 measles, 2 whooping-cough and 4 diarrhoea.

The birth-rate is 1·3 below the mean birth-rate in 1892-94, the death-rate is 1·3 above the mean death-rate in 1892-94, and the zymotic death-rate is 0·9 above the mean zymotic death-rate in 1892-94.

The district is mainly a residential and agricultural one. The few trades carried on locally are all healthy trades. As regards these there was no increase in the number during 1895. The health of the operatives is good.

**Cases of Infectious Disease Notified.**—During 1895 there were 74 cases of infectious disease notified, not reckoning those which occurred in Institutions, viz.: 5 small-pox, 45

scarlatina, 7 diphtheria, 2 membranous croup, 13 typhoid fever and 2 erysipelas. Of these 1 case of scarlatina and 1 case of typhoid fever were isolated in the Stockport Fever Hospital. One case of typhoid fever and 5 cases of erysipelas occurred in the Convalescent Hospital. The typhoid fever patient was too ill to be moved and was completely isolated at the Convalescent Hospital; but the cases of erysipelas were transferred to the Monsall Hospital. At the Warehousemen and Clerks' Schools there was an outbreak of scarlatina at the beginning of the year, 19 of the pupils being attacked. These were isolated in the School Sanitorium and all recovered. At the Lunatic Asylum there was not a single case of infectious disease.

As soon as each case was notified to the Medical Officer of Health, he at once visited the house where the case was, and with the Medical Practitioner in attendance and the help of the Inspector, took all possible precautions to prevent the spread of the disease. The results were fairly successful, that is in no case did the disease spread to other houses, but as the cases occurred in families where strict isolation was impossible, the disease attacked other members of the family. This indeed accounts for the number of cases of scarlatina.

**Cases Notified as Small-pox.**—In respect of these, the Medical Officer of Health as soon as possible, after receiving the notifications, had an interview with the Practitioner in attendance, who courteously allowed him to visit the cases. After a careful examination of the five patients and a consideration of all the circumstances under which the disease had arisen, he came to the conclusion that they were suffering from chicken-pox. Dr. Porter, Medical Officer of Health for Stockport, at the request of the Sanitary Committee, also made a careful and independent examination of the patients and expressed his opinion that the disease they had was chicken-pox. Strict isolation was enjoined and disinfectants were used.

At this time several cases of chicken-pox came under the notice of the Medical Officer of Health, all of which were connected with the School attended by the patients notified as suffering from small-pox.

**Scarlatina.**—Of the 45 cases reported 10 were of persons under five years of age. The majority of the cases occurred in Cheadle and Cheadle Hulme. The Stockport boundary of the district (where the majority of cases occurred in 1893 and 1894) was in 1895 very free from the disease. Generally the type of the disease was mild, but in Cheadle Hulme out of 8 cases notified 2 were fatal. Among these 8, one occurred in the schoolmaster's house, which communicates with the Infants' School. Accordingly the Medical Officer of Health recommended the closing of the Infants' School till the house was free from infection, and the closing of the Mixed School for a fortnight. Doing this probably prevented a serious outbreak of the

disease in this part of the district. No subsequent cases occurred there. In a family where the mother daily expected her confinement, and another member was recovering from a serious illness, the Medical Officer of Health was asked if possible to have the scarlatina case removed ; and Dr. Porter, owing to the urgent and exceptional circumstances, kindly received the patient into the Stockport Hospital. Most of the scarlatina cases in Cheadle occurred among the pupils of the Day Schools in the district. The Schools were thoroughly disinfected, and the drainage (found to be very defective) was put in order.

**Typhoid Fever.**—Eleven of the 13 cases of this disease occurred after the exceptionally hot weather in September. The cases were all investigated, and in all the milk and regular water-supply were free from suspicion. In one case the patient had drunk, when out on a pic-nic, some running water which was contaminated with sewage. In two cases the patients had been working near sewage and nightsoil, in another the case was associated with drainage defects and an escape of sewer gas ; and in others the disease was caught outside the district. Two cases were fatal, and in one of these the patient travelled by rail into the district while suffering from the disease. One of the typhoid fever cases (a pauper) was removed by the courtesy of Dr. Porter to the Stockport Hospital.

**Diphtheria and Croup.**—The probable causes of the cases of diphtheria and those notified a membranous croup were insanitary conditions and the defective drainage of the houses in which they occurred. All ascertained defects were rectified as soon as possible.

**Measles and Whooping-cough.**—Near the Stockport boundary of the district were several cases of measles, some of them of a severe type. Four cases proved fatal. Whooping-cough has been prevalent in the district since the summer—two cases proved fatal. All those who died from these diseases were under 5 years old.

**Influenza.**—At the beginning of the year influenza was very prevalent in the district, but generally the cases were not severe. There was only one death directly due to it.

**Hospital accommodation required.**—The remarks made in previous Reports as to the hospital accommodation needed for infectious cases, still apply. The Hyde Corporation consent to receive cases of small-pox into their hospital so far as their accommodation will allow ; but there is no arrangement at all for the isolation of other cases of infectious disease. The Barnes Convalescent Hospital and the Lunatic Asylum, by agreement, send their infectious cases to the Monsall Hospital ; and Warehousemen and Clerks' Schools have their own Sanitorium.

**Water-supply.**—The water-supply from the Stockport Water Works is sufficient for the needs of the district. Several wells supplying houses at a distance from the mains have, during the year, been cleansed, repaired and covered.

**New Houses.**—During the year 21 houses have been built and occupied. The requirements of the bye-laws have been duly observed. All these houses were supplied with town's water and have water-closets.

**Schools.**—The Medical Officer of Health inspected the elementary schools, and found that, during the year, their sanitary and other arrangements had been re-modelled. They now meet all the requirements of the Educational Department.

**Houses Unfit for Habitation.**—Certain cottages at Adswood, in a very damp and dirty condition, which the Medical Officer of Health reported upon as unfit for human habitation, were ordered to be closed.

**Main Drainage and Outfall Works.**—There is still one part of the district in which the new sewer has to be laid. Three streets have been sewered, during the year, and the houses abutting on them connected. The Sewage Outfall Works are practically finished, and will be very soon ready for use.

**Dairies and Cow-sheds.**—These have been visited from time to time by the Medical Officer of Health. There are 54. They are well kept and clean, and improvements and alterations suggested were carried out.

One bakehouse was regularly inspected.

**Slaughter-houses.**—These are still unlicensed. There are 6 in the district. They were all visited by the Medical Officer of Health and Inspector. Some of the improvements suggested at previous inspections had been carried out. Though most of the premises were clean they were not all well kept.

No unwholesome food, as far as is known, has been exposed for sale in the district.

There are no common lodging-houses in the district.

**Inspector's Report.**—The Inspector reports that, during the year, there were but 8 complaints (exclusive of those in respect of house refuse removal), and that 1200 houses and premises were inspected. Sixty-one orders were issued requiring sanitary amendment of houses, &c., 8 houses were cleansed, repaired and whitewashed, and 33 were disinfected. In 133 houses the drains were repaired, cleansed, trapped, &c., and in 102 the drains were ventilated. Twenty-eight water-closets were repaired, &c., several privies being replaced by slop-closets, which work very satisfactorily. Eight closets were supplied with water, 12 dust-bins were provided and 39 were repaired, and 14 waste-pipes were disconnected. Two nuisances from overcrowding were abated. Twelve animals, kept so as to be a

nuisance, were removed. Twelve accumulations of dung, &c., were removed.

The emptying of ash-pits, &c., is supervised. The number of loads of refuse removed during the year was 2400.

**Recreating Ground.**—A few ladies and gentlemen belonging to the village gave a field of about seven acres, at a cost of over £1000, to the District Council, and the Council accepted the gift, for use as a recreating ground. It is now in use as such, and is very highly appreciated.

**Cemetery.**—During the year the District Council arranged to purchase a very suitable plot of land for a cemetery. It will probably be opened early in 1896.

## DUKINFIELD.

### Urban District.

Medical Officer of Health—DR. J. R. S. PARK.

Population at Census, 1891—17408.

Estimated Population in middle of 1895—18700.

Area in acres—1412.

Birth-rate per 1000 living—29.3.

Death-rate per 1000 living—20.6.

Death-rate from seven principal Zymotic diseases—2.2.

Deaths under one year to 1000 births—233.

This Urban District contains only a part of the civil parish of Dukinfield, the remainder being part of the Municipal Borough of Stalybridge.

In 1895, the number of births registered was 548, and the number of deaths registered was 386. Of the births 286 were males, and 262 were females. Of the deaths 190 were males, and 196 were females. The birth-rate was 1.7 below the mean birth-rate in the three years 1892-94, and the death-rate was 0.7 below the mean death-rate in the three years 1892-94. The birth-rate in 1895 was lowest (28.2) in the third quarter, and highest (31.2) in the second quarter. The death-rate in 1895 was lowest (14.1) in the second quarter, and highest (26.9) in the first quarter.

The number of illegitimate births was 19. The number of deaths of infants under one year old was 128—a very large proportion.

The number of deaths ascribed to the seven principal zymotic diseases was 42, viz. :—6 measles, 9 scarlatina, 7 diphtheria and membranous croup, 3 whooping-cough, 3 typhoid fever, and 14 diarrhoea. The death-rate for the seven principal zymotic diseases was 0.2 below the corresponding mean death-rate 1892-94.

**Cases of Infectious Diseases Notified.**—During 1895, the number of cases of infectious disease notified was 137, viz. :

1 small-pox, 97 scarlatina, 4 diphtheria, 4 membranous croup, 24 typhoid fever, 1 puerperal fever and 8 erysipelas. Forty cases were notified in the first quarter, 20 in the second quarter, 51 in the third quarter, and 28 in the fourth quarter. The only case removed to Hospital was the small-pox case.

The Infectious Disease (Notification) Act was adopted in November, 1892. The number of cases notified in 1893 was 126, and the number notified in 1894 was 118.

In all the cases notified in 1895, as in previous years, the houses and clothing were fumigated with burning sulphur, and disinfecting powder was supplied. "In very few cases was isolation at home possible." Yet the Medical Officer of Health regards the provisions of the Infectious Disease (Notification) Act as "a complete farce and a waste of public money" unless provision for isolation be made.

**Hospital Accommodation Required.**—The accommodation arranged for consists of two beds at the Hyde Hospital for which a sum of £22 per annum is paid. In addition there is a charge of £2 2s. per case for medical attendance in hospital and 1s. 3d. per day for food. Only cases of small-pox are sent. There is no doubt the Hyde Hospital has been of inestimable benefit to Dukinfield in checking the spread of small-pox, but when there are as many as 97 notifications of scarlatina in one year, it is time that proper Isolation Hospital accommodation was provided. The Medical Officer of Health cites the following case, which he thinks must impress upon the Authority the urgency of this question. A poor woman in the district, after nursing her children, who were suffering from scarlatina, became infected and died of the disease, leaving four little ones just recovered from a serious infectious disease, without anyone to look after them, except kind neighbours. Had there been a Hospital in which to isolate the first of these five cases a valuable life might have been saved.

A Sub-Committee of the Sanitary Committee has been appointed to consider this matter of hospital provision, and obtain all necessary information on the subject.

**Disinfecting Apparatus required.**—The Authority has not yet provided any disinfecting apparatus. This is an important need and the Medical Officer of Health trusts will receive attention.

**New Bye-Laws.**—In 1894 a Committee was appointed to arrange bye-laws up to date, those in use in the district having been adopted in 1857. The bye-laws have been drafted and sent up to the Local Government Board for approval.

**Small-pox.**—A case of small-pox was reported in April. Prompt action was taken to prevent the spread of the disease, and the patient was at once removed to the Isolation Hospital at Hyde, where recovery took place.

**Measles** was prevalent in the early months of the year. There were 2 deaths from this cause in January, 3 in February, 1 in March and 1 in May. Measles is not required to be notified, but much may be done to prevent its spread ; and it is the duty of parents to isolate, as far as possible, the children affected.

**Scarlatina.**—Of the 97 cases notified, 24 occurred in January and 23 in August. In some houses 2, 3, 4 and even 5 cases were notified. Of the 9 deaths, 4 were in August.

**Diphtheria and Croup.**—Four cases of diphtheria were notified—1 in each of the 4 months—January, April, June and November. Four cases of croup were notified—1 in each of the 4 months—February, May, June and October. Three of the diphtheria cases and all the croup cases terminated fatally. All those attacked were under 5 years of age. It is difficult to explain the fact that in spite of improved sanitary conditions, the mortality from these diseases increases. When children are attending school suffering from so-called sore throats, other pupils are very prone to take the disease, and it is important that parents and school-masters should know this.

**Typhoid Fever** is a typically preventable disease, and its presence or absence is some indication of bad or good sanitary conditions. Four cases were notified in the first quarter, 4 in the second quarter, 10 in the third quarter and 6 in the fourth quarter. The 3 fatal cases were in the third quarter.

**Diarrhœa.**—Of the 14 fatal cases of this disease 12 occurred in children under 5 years of age, and nearly all were in August, September and October.

**Influenza.**—Two deaths were certified as due to this disease—both occurred in March. There is no doubt about the infectiousness of influenza, but it must rest with the people themselves to take precautions to avoid exposure to infection.

**Notification to Free Library recommended.**—The Medical Officer of Health points out that infectious disease may be communicated by means of books ; he therefore recommends that whenever a case of infectious disease is notified a communication to this effect should be made to the Librarian at the Free Library. Cases notified are regularly reported to the masters of schools where the children from the infected household attend ; it would surely be wise to report cases to the Librarian also.

**Phthisis** is responsible for 19 deaths in 1895—equal to a death-rate of 1 per 1000 living. The mean number of deaths from phthisis in the three years 1892-94 was 26. The Medical Officer of Health ventures to repeat what he stated in his last Annual Report.

The employment of workpeople in the cotton mills (particularly in card-rooms), in coal-pits, and in spindle-works,

tends to develop phthisis and other chest diseases. Though it is an open question whether phthisis is hereditary or not, there is no doubt the tendency to it may be inherited in the form of constitutional weakness, or of a narrow contracted chest. "The spores which cause this disease are found in the air-borne dust, especially in rooms inhabited by phthisical patients. According to Bollinger, the daily sputa of a single patient may contain 20 millions of these germs, and drying for months will not destroy their virulence. The prevalence of the pulmonary form of phthisis, and its close relation to air conditions, are not without significance, as pointing to air-borne infection." The germs are found not only in the air and dust, but also on the walls of rooms occupied by phthisical persons. Every precaution should be taken to isolate as much as possible those suffering from phthisis, and to have the rooms well disinfected.

**Water-supply.**—The Dukinfield Urban District Council are joint owners with the Corporations of Ashton-under-Lyne and Stalybridge of the district Waterworks. The water is gathered from the springs and streams in the Swineshaw Valley. It is pure and abundant. The average daily supply during the five years 1891-95 has been 20.26 gallons per head of the population.

**Disposal of Excreta and Refuse.**—The sanitary accommodation provided for houses in the district is of three kinds—midden-privies, pails and w.c.'s. Although there are still many of the old midden-privies, wet and open, all new property is required, if possible, to have w.c.'s. The excreta from the pails is taken to farms, and in particular to the District Council's sewage farm; and the contents of the midden-privies are gathered and tipped on the sewage farm between 11 p.m. and 6 a.m. At present the closets are flushed into the sewers, and then into the river. In the near future all sewage will be treated at Bradley Hurst Farm, consisting of upwards of 60 acres of land in a most favourable position as an outlet to the sewage of the district.

The neighbouring Corporation of Stalybridge decided, some time ago, to unite with Dukinfield to form a Joint Sewage Scheme, and to treat the sewage of the two districts at Bradley Hurst Farm before allowing it to enter the river. Considerable delay has been caused in the completion of this scheme owing to negotiations with the Audenshaw Urban District Council. However, Audenshaw has now been brought into the Joint Sewage Scheme, and will also have its sewage treated at Bradley Hurst Farm.

Messrs. Thos. Newton & Son have completed the plans for the works and main trunk sewer, and these have been sent to the Local Government Board for approval.

Plantation Farm, also in Dukinfield Urban District, has been purchased by the Corporation of Ashton-under-Lyne for the disposal of the sewage of that district.

There is no doubt that, as the result of these Sewage Schemes, the condition of the river Tame will be greatly improved.

**A Refuse Destructor required.**—The Medical Officer of Health again proposes that the Local Authority should take into consideration the erection of a destructor to cremate the refuse. It is regularly and systematically gathered—that from the shops, &c., is tipped at the farm. The street sweepings are conveyed to land off Furness Street and to Bradley Hurst.

**A polluted River.**—Dukinfield is situated on the left bank of the river Tame, a tributary of the river Mersey, and the Tame is at present nothing more or less than an open sewer, into which flows, in addition to the sewage of the district, the liquid refuse from the different industries which are carried on on both sides of the river. The industries referred to are cotton mills, iron works, hat works, dye works and dry-soap works. The waste liquor discharged from the three last named works has a very deleterious effect on the water.

**Inspector's Report.**—The Inspector, Mr. J. Summerfield, furnishes a list of the many nuisances dealt with, including 69 defective drains put in order, 80 poultry (so kept as to be a nuisance) removed, 7 pig-sties removed, 109 ash-pits drained, and 51 miscellaneous nuisances abated. Three smoke nuisances were reported. Some practical means of regulating the quantity of dense smoke to be allowed from mill chimneys is still much needed. The inspector also supervised the scavenging. The number of loads of street sweepings removed was 1955. The number of loads of dry ashes was 918, the number of loads of refuse from midden privies was 4745, and the number of loads of excreta removed was 780.

**Canal Boats.**—There is a mile of the Peak Forest Canal running through the district. The Inspector paid 26 visits to this and inspected 23 canal boats.

The canal seems to be a convenient place for drowning dogs. During the year the Inspector removed 84 carcases of these animals.

There are no offensive trades carried on in the district, and there are no common lodging-houses or tenement lodging-houses. There are very few back-to-back houses, and only about 3 cellar-dwellings.

**Dairies, Cow-sheds and Milk-shops** are periodically inspected. There are 15 in the district, and 66 visits of inspection were made during the year. The premises, fixtures, milk-vessels, &c., were found scrupulously clean, and, with one or two exceptions, the lighting, ventilation, draining, and water supply were satisfactory.

Samples of milk (and some other foods) were submitted to the County Analyst, and in several cases the sample was

reported to be adulterated. Three prosecutions were undertaken for adulteration, and two for offences under the Margarine Act.

**Bakehouses and Slaughter-houses** are also regularly inspected and reported on. The bakehouses are kept in good sanitary condition. There are 15 slaughter-houses, 9 of which are being used at present. Twenty-four visits of inspection were made to them during the year. As a rule, they are kept clean, but many have not sufficient air-space or light, and are situated in objectionable places.

The Medical Officer of Health suggests that it would be an advantage to have a public abattoir.

**Vaccination.**—The following return is submitted respecting the vaccination of children whose births were registered in the district in 1895. The return is dated February 13th, 1896, and is signed by the Registrar and Vaccination Officer.

Successfully vaccinated	...	...	110
Insusceptible of vaccination	...	...	1
Died unvaccinated	...	...	84
Postponed by medical certificate	...	...	3
Removed from the district	...	...	10
Outstanding	...	...	340
<hr/>			
Births registered	...	...	548

In a return submitted in the Annual Report for 1894, it appeared that out of 552 births 155 had been successfully vaccinated.

**Open Spaces and Play-grounds.**—A Committee has now been in existence over twelve months for obtaining open spaces and play-grounds for the benefit of the people, and more especially the children, of the district. Up to the present negotiations which have been carried on with this object are not completed.

**Cemetery.**—The Local Authority are joint owners with the Ashton-under-Lyne Corporation of a large cemetery, situated in Dukinfield, which is sufficient, not only for present needs, but for the requirements of many years to come.

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## HOLLINGWORTH.

### Urban District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1891—2895.

Estimated population in middle of 1895—2895.

Area in acres—2086.

Birth-rate per 1000 living—29.7.

Death-rate per 1000 living—14.8.

Death-rate from seven principal Zymotic diseases—2.0.

Deaths under one year to 1000 births—162.

In 1895 the number of births registered in the district was 86, and the number of deaths registered in the district was 43. The birth-rate was 0.7 above the mean birth-rate in 1892-94, and the death-rate was 3.7 below the mean death-rate in 1892-94. Fourteen of those who died (about one-third) were under one year old.

One death was due to erysipelas, 6 were due to diarrhoea, 7 to phthisis, 7 to bronchitis or pneumonia, and 3 to heart disease.

**Infectious Disease notified.**—Twelve cases of infectious disease were notified, viz. : 1 scarlatina, 5 diphtheria, 4 typhoid fever and 2 erysipelas.

**Scarlatina.**—The only case of this disease occurred in November in Market Street. The infection was brought by a person who had been paying a visit to the Fever Hospital at Gamersley.

**Diphtheria.**—The first case of diphtheria appeared in February in Old Hall Lane, the cause being probably foul air from defective drains; and the second case was during March in Taylor Street. In December there were three cases, one in Junction Street and 2 in the same house in Woolley Street. Except in the first case no insanitary conditions were discovered. All the cases were of a mild character and recovered.

**Typhoid Fever.**—In March a case occurred in Market Street, and no sanitary defects could be discovered on the premises. The other 3 cases occurred in October and December during the laying of the main sewer, when the old sewer was left open some time. The persons attacked lived in close proximity to this sewer and foul emanations were noticed coming from it. There is no doubt sewer-gas from the source indicated was the cause of the disease. One of these cases proved fatal, but the death was not registered till 1896.

**Erysipelas.**—The first of the two cases reported was in dilapidated property in Wedneshough Green. The surroundings of the patient were such as would favour the development of erysipelas. The other case occurred in Green Lane and proved fatal. There were no defects in this house.

**Water-supply and Milk.**—The water-supply has been abundant and good throughout the year. There are no milk-shops in the district, the milk being supplied from farms outside.

**Inspection.**—The district has been inspected periodically by the Medical Officer of Health and Inspector. Slaughter-houses and bakehouses have been inspected, and have been found, on the whole, well kept. There is only one common lodging-house, and this has always been found clean and in good order.

There are no offensive trades carried on in the district.

**Main Sewer and Sewage Disposal.**—A main sewer has been laid through the Hollingworth portion of Mottram Moor, Market Street, Green Lane, and Woolley Lane, and on to the outfall works in the Hague, which are now being constructed. When this undertaking is completed and connections have been made to the properties *en route* the sanitary condition of the district will be much improved.

**Middens, &c.**—Very little has been done in the re-construction of midden-privies, as recommended by the Medical Officer of Health, consequently in wet weather the present middens are converted into filthy cesspools, the contents of which percolate gradually into the subsoil. Much requires doing in the way of re-construction ; and the emptying of middens should be done at least once a month.

**Nuisance Abatement.**—The Inspector has attended to a large number of nuisances, 34 notices for the abatement thereof having been served during the year. These had reference chiefly to defective or obstructed drains and filthy closets. All these as well as other minor nuisances have been abated. The nuisance in rear of Nos. 50 to 54, Market Street, has been at last got rid of by the construction of four new closets and ashpits.

## HOOLE.

### Urban District.

Medical Officer of Health—DR. W. C. WATSON.

Population at Census, 1891—3329.

Estimated population in middle of 1895—3329.

Area in acres—331.

Birth-rate per 1000 living—35.1.

Death-rate per 1000 living—14.1.

Death-rate from seven principal Zymotic diseases—2.4.

Deaths under one year to 1000 births—111.

This Urban District is only part of the parish of Hoole ; the remaining part (419 acres, and having a population of 174) forms a part of the Chester Rural District.

The population of the Urban District was 3892 at the Census, but from this has been deducted 563, the population of the Chester Union Workhouse, which is situated in this district.

In 1895, the number of births registered was 117, and the number of deaths registered was 47. The birth-rate is 2 below the mean birth-rate in 1892-94 ; and the death-rate is 3.7 below the mean death-rate in 1892-94. Eight deaths were due to the principal zymotic diseases, viz. : 2 scarlatina, 1 measles, 1 whooping-cough, and 4 infantile diarrhoea. There were also one death from rheumatic fever, 5 deaths from phthisis, 10 from

bronchitis or pneumonia, 2 from heart disease, and 4 from injuries.

**Cases of Infectious Disease notified.**—The number of cases of infectious disease notified in the district was 34, viz. :—15 scarlatina, 13 diphtheria, 5 typhoid fever, and 1 erysipelas. One scarlatina case, 8 diphtheria cases, and 1 typhoid fever case were removed to the Chester Fever Hospital. There were also 2 cases of infectious disease which occurred at the Workhouse, viz. :—1 scarlatina and 1 diphtheria. Both these cases were removed to the Chester Fever Hospital.

**Measles and Mumps.**—There was an outbreak of these diseases at the end of the year, and schools were closed on this account from November 30th till the Christmas holidays.

**Nuisance Abatement.**—The district has been regularly inspected during the year for the discovery of nuisances, and 103 notices requiring the abatement of nuisances have been served. No further proceedings were necessary, and all the notices were attended to. During the year no privies were converted into water-closets—10 still remain requiring conversion.

Ashpits are regularly emptied ; when necessary, weekly. Drains are regularly flushed.

**Private Streets adopted.**—Eight private streets have been adopted by the District Council, and paved and made good.

**New Houses.**—During the year 16 new houses were built, or are in course of erection, under the supervision of the Surveyor.

**Water-supply.**—The supply in use is chiefly town's water. Some wells are still in use. Samples were tested, but the results showed no sufficient reason for rejecting them.

**Milk-houses.**—The 9 milk-houses in the district have been regularly inspected.

## HOYLAKE & WEST KIRBY.

### Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—6545.

Estimated population in middle of 1895—7815.

Area in acres—2019.

Birth-rate per 1000 living—23.6.

Death-rate per 1000 living—14.0.

Death-rate from seven principal Zymotic diseases—1.1.

Deaths under one year to 1000 births—162.

The Urban District consists of West Kirby, Little Meols including Hoylake and Hilbre Island\*), Hoose, Great Meols, and part of Grange. The area and population at the date of the Census are given as follows :—

			Area in Acres.	Population at Census.
West Kirby	..	...	482	.. 2441
Little Meols	..	..	711	.. 1962
Hoose	..	..	108	.. 1658
Great Meols	..	..	695	.. 456
Part of Grange	..	..	23	.. 28

The Urban District was created by an Order of the Cheshire County Council, which was confirmed by the Local Government Board, dated January 15th, 1891.

The portion of the Urban District now regarded as Hoylake is Little Meols, Hoose and Great Meols; the portion now regarded as West Kirby is West Kirby and part of Grange.

In 1895, the births registered in the district numbered 185; the deaths (excluding 5 deaths of persons not belonging to the district) numbered 110. Of the deaths 60 were in Hoylake, and 50 were in West Kirby. The birth-rate is 0·7 below the mean birth-rate in 1892—94; and the death-rate is 1·1 below the mean death-rate in 1892—94. The proportion of deaths among infants is large.

The Hoylake mortality includes 8 deaths from the principal zymotic diseases (2 whooping-cough and 6 diarrhoea), 1 death from phthisis, and 11 deaths from bronchitis or pneumonia, 2 from influenza, and 2 from heart disease.

The West Kirby mortality included a death from diarrhoea, 12 from phthisis, 6 from bronchitis or pneumonia, 5 from influenza, and 4 from heart disease.

There were in all 70 cases of infectious disease notified—61 being in Hoylake and 9 in West Kirby. The Hoylake cases were as follows :—45 scarlatina (of which 34 were removed to hospital), 4 diphtheria (of which 1 was removed to hospital), 6 typhoid fever (of which 3 were removed to hospital), 1 puerperal fever, and 5 erysipelas. The West Kirby cases were as follows :—4 scarlatina (of which 2 were removed to hospital), 4 typhoid fever, and 1 erysipelas.

It is interesting to note that there was no death from any of the notifiable infectious diseases. All the cases, whether treated in hospital or at home, terminated in recovery. Considering the free communication there is between this district and both Liverpool and Birkenhead, many of the cases of infectious disease occurring must be looked upon as imported. The cases of scarlatina appeared at intervals in different

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\* This Island appears on the Ordnance Map as a detached part of the former civil parish of St. Oswald, now incorporated with that of Chester, but it is treated as a part of Little Meols owing to its having been rated to this parish for the maintenance of the poor.

localities, and prompt removal to hospital or efficient isolation at home prevented any general extention of the disease. The cases of typhoid fever were few and scattered ; all were duly investigated and measures taken to discover and remedy sanitary defects on premises where the cases occurred.

The Medical Officer of Health visited the district a number of times, made general and special inspections, and advised the District Council and Surveyor and Inspector on various points in connection therewith. In particular he reported on the condition of the shore at the outfalls of the sewers, which was found to be highly satisfactory ; and on the measures to be taken for the proper keeping of the milk-farms, which on the whole are in a very fair state.

Mr. Foster, Surveyor and Inspector, gives a complete and satisfactory account of the work done under his direction. He reports that ashpits are emptied and disinfected every fortnight by men in the employ of the District Council. The old ashpits are being abolished, and galvanized iron bins substituted, which are emptied weekly. Up to the end of the year this change had been effected at 100 premises. Thirty-two privies have been converted into water-closets, and 88 other defective arrangements causing nuisances have been remedied. There has been no overcrowding.

The sewers are flushed weekly in summer and once a fortnight in winter. The Lang Sewer is flushed weekly summer and winter. During the year 466 yards of sewer have been relaid.

Nine private streets have been made, and one street is in course of construction.

Plans have been passed for 26 new houses at Hoylake and 15 at West Kirby.

The district has an excellent supply of water from the West Kirby Water Works (deep wells). The water-mains have been extended, through the action of the District Council, so as to supply nearly all the scattered houses in the rural part of Great Meols.

## KNUTSFORD.

### Urban District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1891—4643.

Estimated population in middle of 1895—4993.

Area in acres—1760.

Birth-rate per 1000 living—32.6.

Death-rate per 1000 living—14.7.

Death-rate from seven principal Zymotic diseases—0.4.

Deaths under one year to 1000 births—92.

This is the first Report of the new Urban District of Knutsford, the area it contains having previously formed a part of the Rural District of Altrincham, now known as the Rural District of Bucklow.

The present Medical Officer of Health and Mr. Hough represented Knutsford on the Altrincham Rural Sanitary Authority since the close of 1890, and in submitting his first Annual Report he places on record the circumstances attending the foundation of the new District. In March, April and May, 1894, the question of local self-government was discussed at various public meetings, but the ratepayers as a body declined to make the necessary representation to the County Council. Nevertheless certain ratepayers did petition the County Council, and on August 2nd an enquiry was granted. This enquiry was held on October 8th, and resulted in the formation of the new Urban District. Owing to the delay caused by complying with the necessary forms the election of Councillors did not take place till April 27th, 1895, and the first meeting of the Knutsford Urban District Council was on May 3rd.

Of the local questions which demanded immediate attention in the interests of the public health, four may be specified:—

**1. Cemetery.**—The accommodation for burials was declared inadequate by the late Dr. Fox, in 1882, and matters have grown worse since. In his Annual Report for 1894 Dr. Fox wrote: “It has been known for years that fresh interments can hardly be made in either churchyard without the disturbance of human remains.” If the negotiations in which the Cemetery Committee have for months been engaged should prove abortive, the Council will have no choice but to exercise the compulsory powers with which they are endowed; as action is imperatively necessary without loss of time.

**2. Sewage Disposal.**—Sundry complaints have been received during the year from the Mersey and Irwell Joint Committee as to the condition of the sewage effluent. The filters have been re-modelled, and the effluent now appears satisfactory. If the amount of sewage to be treated could be kept at a minimum, there would probably be no further trouble; but in times of heavy rain the tanks and filters are not capable of dealing satisfactorily with the increased volume poured into them. The simplest and most effectual remedy, and the cheapest also, would seem to be the diversion of the storm water. It is hoped that this improvement may be shortly carried out.

**3. Water-supply.**—The quality of the water supplied for consumption in the town has been known to be unsatisfactory for more than ten years. The first inspection of the stream made by the Inspector of the Bucklow Rural District, in November, 1893, proved the existance of numerous pollutions.

The second inspection, in November, 1895, made by the Medical Officer of Health, is the subject of a Special Report presented to the District Council on December 3rd ; and has led the Council to condemn the stream, as a source of supply, and to request the Water Company to take immediate steps to provide a more pure and wholesome water.

**4. Isolation Hospital.**—This matter has received careful and prolonged attention from the Hospital Committee. Joint action with the two neighbouring Urban Districts of Wilmslow and Alderley Edge is projected, and is in course of arrangement.

The statistics relating to the period prior to his appointment have been obtained by the Medical Officer of Health from the records of the Bucklow Rural District, and he is therefore able to present a complete Report for 1895, as though the District had been in independent existence from January 1st.

**Area and Population.**—The acreage of the District, according to the year-book of the Bucklow Union, is 1693 acres of ratable land, but this does not include the heath, the moor or the roads. According to the Statement containing particulars as to Unions, Rural and Urban Sanitary Districts and Parishes, prepared for the County Council, there are in all 1760 acres in the Knutsford Urban District. The population, at the date of the Census in 1891, was 4643, out of which 200 were enumerated in the Workhouse and 177 in H.M. Prison. The population at the middle of 1895 is estimated at 4993, out of which 213 were in the Workhouse and 316 in H.M. Prison.

**Births and Deaths.**—In 1895 the number of births registered was 163, out of which 14 were in the Workhouse and 1 was in H. M. Prison. This is equal to a birth-rate of 32.6 on the entire population, or a birth-rate of 33.1 on the population exclusive of those in the Workhouse and Prison. Ten of the births in the town and 13 of those in the Workhouse were illegitimate. In 1895 the number of deaths registered was 100, out of which 37 took place in the Workhouse and 3 in H. M. Prison. Out of the 100 deaths 34 were of persons not belonging to the District. Thus there were 66 deaths in a population of 4,464, which is equal to a death-rate of 14.7. Fifteen of the 66 deaths were of infants under one year old.

Of the deaths belonging to the District 2 were due to typhoid fever, 4 to phthisis, 8 to bronchitis or pneumonia and 8 to heart disease. Of the deaths not belonging to the District 2 were due to erysipelas, 7 to phthisis, 2 to heart disease, and one was due to bronchitis. The only death due to injuries was of a child from burns.

**Cases of Infectious Diseases notified.**—There were 25 cases of infectious disease notified, viz. : 19 scarlatina, 1 typhoid fever and 5 erysipelas (2 of which occurred in the Workhouse). Two deaths occurred in the town from typhoid

fever (one of a case notified in 1894) and 2 deaths occurred in the Workhouse from erysipelas. The patients who died of typhoid fever did not contract the disease locally.

**Prevention of Infectious Disease.**—A Special Report presented to the District Council on September 11th, in reference to some recurrent cases of scarlatina, showed that isolation was imperfect and disinfection incomplete. In cases which occurred since greater care was insisted on, there were no cases after October.

**Scavenging** has been continued as previously in the Nether Ward. Tenders are invited for 1896 to include the Over Ward. This will be a great advantage to the inhabitants of Over Ward.

**Lighting.**—The powers of the Lighting Inspectors are now vested in the Council, and probably in this matter also those who were outside the lighting area will benefit by the change.

**Common Lodging-houses.**—There are two, and these have been inspected by the Medical Officer of Health and the Inspector.

**Unsound Meat.**—One offence, under the “unsound meat” clauses of the Public Health Act, was reported to the Medical Officer of Health, but on investigation was not found proved.

**Water Analysis.**—Several samples of the town supply were submitted to the County Analyst for analysis. His reports show the water to be “unsatisfactory.”

**Sewer Ventilation.**—Long standing complaints of defective sewer ventilation in Brook Street, Legh Road and Adams Hill have received attention, and it is believed with good results.

**Inspector's Report.**—The Inspector, Mr. Water Downes, reports as to matters coming within his department.

**Sewers.**—Most of the main sewers are in fair working order. The outfall sewer was found to be in a very bad state, containing  $9\frac{1}{2}$  inches of silt. It was thoroughly cleaned out and will now take the sewage of the district, except when it includes much storm-water. The Inspector advises that the surface water from the two main streets should be diverted from the main sewer, an arrangement that would give relief to the precipitation tanks and filter beds. The sewage from Cross Town which was running direct into the Moore Ditch has been made to deliver into the main sewer. To abate nuisances from effluvia, 3 manholes have been sealed up, and 2 ventilating shafts (one on Adams Hill and one at Heathside) have been fixed to the main sewer.

**The Filter Beds at the Outfall.**—The Inspector has entirely altered the plan of filtering at these beds. The effluent

since the alteration appears to be very clear. The Inspector will do all in his power to maintain a good effluent.

**Privies and Ashpits.**—Several cesspit-privies have been converted into w.c.'s. New closets and privies are now in course of erection to cottage property, which will effect a decided improvement. At the Inspector's suggestion pipes have been laid for the proper flushing and cleansing of school-closets. The emptying of privies and ashpits is fairly well done, and all complaints as to neglect of this work receive attention.

**Slaughter-houses.**—These are frequently inspected and found to be kept very clean.

**Bye-Laws needed.**—The Inspector reports that his position will be strengthened when the bye-laws are prepared and passed.

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## LYMM.

### Urban District.

Medical Officer of Health—After September 12th the  
COUNTY MEDICAL OFFICER.

Population at Census, 1891—4995.

Estimated population in middle of 1895—5686.

Area in acres—4375.

Birth-rate per 1000 living—21·4.

Death-rate per 1000 living—15·1.

Death-rate from seven principal Zymotic diseases—1·2.

Deaths under one year to 1000 births—139.

During 1895 the number of births registered in this district was 122, and the number of deaths registered was 86. Of the births 6 were illegitimate. The mean birth-rate during the three years 1892-94 was 26·3. The mean death-rate during the same three years was 12·1. Thus in 1895, the birth-rate was distinctly lower than in recent years, and the death-rate was distinctly higher than in recent years.

The number of births registered in the first quarter was 36, in the second 32, in the third 31, and in the fourth 23. The number of deaths registered in the first quarter was 28, in the second 18, in the third 19, and in the fourth 21. The death-rate was therefore low in all but the first quarter, when exactly half the deaths recorded were ascribed to bronchitis or pneumonia.

**Infant Mortality.**—Seventeen of the deaths recorded were of infants under one year old, viz.: 6 convulsions, 4 debility or marasmus, 2 bronchitis, 1 croup, 1 diarrhœa, 1 influenza, 1 inanition, and 1 premature birth. Three were registered in the first quarter of the year, 6 in the second, 3 in

the third, and 5 in the fourth. Fourteen of the 17 infants were under six months old at the time of death.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 25, viz.:—13 scarlatina, 8 diphtheria, 2 erysipelas, 1 croup and 1 typhoid fever. All these except 2 were notified during the last four months of the year. None of the cases were removed, though in some instances they could not be effectually isolated at home. The deaths from notifiable diseases were 4, viz.: 2 diphtheria and 2 croup.

**Scarlatina.**—The first case was reported on September 25th at Heatley, and a month later 2 cases were reported at Oughtrington and 3 elsewhere. Another case was reported on October 29th, also 3 cases in November and 3 in December. Considering there were only 13 cases, the disease was rather widely spread. The patients were of school age, and kept from school as soon as the disease was recognised. They all made a good recovery.

**Diphtheria.**—The 3 cases of this disease first notified (on September 10th and 14th and October 2nd) were in good houses, and the symptoms manifested were at no time serious. The other five cases, notified between October 12th and November 7th, occurred in two blocks of small houses at Heatley, and resulted in 2 deaths. The outbreak was fully investigated by the Medical Officer of Health at the time, and a special Report thereon was submitted for the consideration of the Council. Defects in the system of drainage as regards both blocks were pointed out.

**Croup.**—Of the two fatal cases of this disease which were registered, one was not notified till the day on which death took place, and the other was not notified at all. The first case was a child 14 months old who died on February 12th, and the second case was an infant 1 month old who died on October 3rd. They seem to have had no connection with the diphtheria cases.

**Typhoid Fever.**—The only case of this disease notified occurred early in September. The patient recovered and the source of the disease was not ascertained.

**Erysipelas.**—No death was ascribed to this disease, but 2 cases were notified—one in May on the Canal Bank and the other in October near the gas works. The patients were both married women.

**Measles** was prevalent to some extent during the spring and early summer. One death was registered from the disease in March.

**Diarrhœa** was certified as the cause of death in 2 cases, viz: an infant 3 months old in August and a woman upwards of 60 years old in September.

**Influenza** was prevalent in March and April, and during these months 5 deaths were ascribed to it. Two of the victims of this disease were 60 years old at the time of death, one was 35 years old, one was 29 years old, and one was an infant of 8 months.

**Bronchitis and Pneumonia.**—The death-rate from these diseases was equal to 3.7 per 1000 living, which is rather high. As has already been stated these diseases were specially fatal during the first quarter.

The only death from accident or injury was that of an unknown man, about 50 years of age, whose body was found in the Bridgewater Canal, at the end of August.

**Isolation Hospital needed.**—No steps have been taken during the year for providing an Isolation Hospital, though the subject has been under consideration. The County Council were communicated with, in reference to making joint provision and its probable cost. When diphtheria appeared at Heatley it would have been a great convenience to have been able to isolate the first cases in hospital.

**Disinfecting Apparatus needed.**—After cases of infectious disease are convalescent there appears to be no means of efficiently disinfecting infected bedding, bed clothes, wearing apparel, &c. A suitable apparatus for disinfecting by steam should be provided.

**Inspector's Report.**—Mr. Mort, the Sanitary Inspector, reports that during the year he made 187 general visits of inspection, and 38 visits with reference to infectious diseases and the disinfection of premises. The number of nuisances from defective drains, abated, was 51. The number of nuisances from defective privies and ash-pits, abated, was 16. The Inspector supervises the removal of refuse. There were 2171 emptyings effected of ash-pits and privies. The number of loads removed was 688.

The five registered slaughter-houses in the district were supervised.

There were 50 canal-boats inspected.

Five certificates in respect of new houses were given.

There are no common lodging-houses in the district.

No legal proceedings were taken.

**Sewers, &c.**—Periodical attention is given to the sewers by flushing, cleaning out manholes, &c. In October there were two or three complaints of effluvia from the sewer ventilators in Mill Lane, Heatley, and these were investigated by the Medical Officer of Health. The sewer appeared to be in good condition and properly flushed. The sewage farm of  $15\frac{3}{4}$  acres, planted with willows, was supervised by the Inspector.

**Dairies, &c.**—There are 26 premises registered as dairies, cow-sheds or milk-shops supervised by the Inspector. The

Register is about to be revised. The authority have made regulations in pursuance of the Dairies, Cow-sheds and Milk-shops Order, and these regulations have been in force since 1888. A little more systematic inspection seems to be needed to see that the regulations are carried out.

## MARPLE.

### Urban District.

Medical Officer of Health—DR. A. F. KEYWORTH.

Population at Census, 1891—4844.

Estimated population in middle of 1895—5000.

Area in acres—3053.

Birth-rate per 1000 living—23·0.

Death-rate per 1000 living—13·8.

Death-rate from seven principal Zymotic diseases—0·8.

Deaths under one year to 1000 births—95.

This Urban District takes in Barns Fold, Hawk Green, Middlewood and Windlehurst.

In 1895, the number of births registered was 115, of which two were illegitimate; and the number of deaths registered (including 1 occurring outside the district and belonging thereto and excluding 4 occurring within the district and not belonging thereto) was 69. The birth-rate is 0·1 below the mean birth-rate in 1892-94. The death-rate is 1·8 below the mean death-rate of 1892-94.

Eleven of the deaths in 1895 were of infants one year old (a small proportion) and 30 were of persons 65 years old and upwards (a large proportion), one of those who died being 97 years of age.

Of the 69 deaths 4 were due to zymotic diseases, viz.:—1 diphtheria and 3 diarrhoea.—There were 2 deaths from phthisis, 14 from bronchitis or pneumonia, and 2 from heart disease.

**Infant Mortality.**—The number of deaths of infants being only 11 in 1895, whereas the number recorded in 1892, 1893 and 1894 were respectively 19, 15 and 16, is worthy of note. The Medical Officer of Health believes that there has been less boarding out of babies in Marple than heretofore, and mothers employed in factories have remained at home longer both before and after confinement. Two of the 11 infants died from diarrhoea, and 7 from premature birth or marasmus.

**Notification of Infectious Disease.**—Before the close of 1894 the District adopted the Infectious Disease (Notification) Act, 1889, and the Act came into force on January 15th, 1895. The officers of the Authority have thus been enabled to inspect every house in the locality in which infectious disease occurred, for the discovery and remedy of sanitary defects; and they

have also been enabled to give advice as to precautions for the prevention of the spread of infection. The Medical Officer of Health draws attention to the fact that the head of the family to which the patient belongs or in his default the nearest relative of the patient present in the building, &c., is bound to notify as well as the medical practitioner in attendance. During the year 27 cases of infectious disease were notified, viz.: 16 scarlatina, 2 diphtheria, 3 typhoid fever and 6 erysipelas.

**Scarlatina.**—The first case occurred at Hawk Green in April, and a second case appeared in the same house in May. The next case was in Marple in July. This was followed by 2 more cases in Hawk Green at the end of July (children of a woman who took in washing), which were promptly sent to the Hyde Hospital, where they remained till well. Then there were 2 cases in Marple in August (the first being imported from Manchester) and a case at Hawk Green, probably infected from the case removed to Hyde, by which another case was infected in the same house. Two cases then appeared in Strines and 5 in one street in Marple. In four instances 2 cases occurred in the same house. Six of the patients were under 5 years of age.

**Diphtheria.**—Only 2 cases were notified, one of which was of a mild character and possibly due to a sanitary defect in the house where it occurred. The defect was immediately remedied. The other case was that of a child living in very old property in Marple, in a damp situation and requiring repair. This case had a fatal termination.

**Typhoid Fever.**—Three cases of this disease occurred respectively in August, September and November. The first case was undoubtedly imported from a distant village in Buckinghamshire, the patient having been employed nursing a typhoid case prior to coming to Marple for a holiday. The other two cases were children far removed from each other, both of a mild character. The sanitary arrangements of the houses where these cases occurred were fairly good, and no cause for disease could be assigned.

**Measles, Whooping-cough and Influenza.**—Measles and whooping-cough, of a mild type, prevailed to some extent all the year. Odd cases of influenza appeared at intervals, and 2 deaths were attributed to complications following attacks of influenza.

**Phthisis** was only certified as the cause of death in 2 cases—1 was a child tuberculous from birth, and the other an elderly woman.

**Isolation and Disinfection.**—With reference to these, matters remain *in statu quo* in the district. There have been two attempts to form a Hospital District, in the first instance by joining Bredbury and Romiley, and afterwards by joining the Stockport Rural District and Bredbury and Romiley. However

nothing has been done, and for isolation accommodation the Urban District of Marple is dependent on the Hyde Corporation who will receive cases into their Hospital, *if there be room.*

The adoption of the Infectious Disease (Notification) Act, giving the Authority knowledge of every case of infectious disease occurring, has shown the utter impossibility of isolating a sick child in a two-roomed cottage where there are other children, and the great advisability if not the absolute necessity of providing some efficient means of isolating infectious patients.

Whether the County Council will take advantage of their powers under the Isolation Hospitals Act, and compel the district to make hospital provision remains to be seen, but they will undoubtedly continue to exercise pressure.

As to the disinfection of infected bedding, &c., the District Council has no apparatus for doing this, and no arrangement with Hyde or Stockport to undertake the work.

**Refuse Removal.**—Sooner or later the District Council will have to make arrangements for the regular emptying of ashpits, &c. There is some small improvement in the way this has been done during the year, but some ashpits are still in a foul state. In several cases the tenants have complained that they cannot get their ashpits emptied although they are quite willing to pay for the emptying.

**Sewers and Sewage Disposal.**—The close of the year was marked by the completion of the Outfall Works at Dooley Lane, and the filter beds are working satisfactorily. The new main sewer from Rose Hill to Hawk Green has also been completed, and nearly all the property on its line of route has been connected therewith, thereby diverting a large quantity of sewage from a brook used for watering cattle.

**The Public Health Acts Amendment Act, 1890.**—The District Council has adopted this Act and doubtless will shortly take steps to use the increased powers acquired.

**Water-supply.**—The water-supply is good and plentiful. During the year the mains have been extended. The water from the few wells still existing appears to be satisfactory.

**New Houses and Lighting.**—Several good houses have been built or are in course of erection. Good cottages, having each three bedrooms, have been built in the course of the year. The district is in part fairly well lighted with gas of good quality. Several new lamps have been added during the year, but more are needed, especially along to the bottom of Dan Bank.

There still remains a large quantity of old property in the district which requires re-building.

**Bakehouses and Slaughter-houses.**—These have been inspected and found clean and in satisfactory condition, but some require structural alterations.

**Schools.**—These have also been inspected. They are clean, fairly well ventilated, the sanitary arrangements are satisfactory and well kept. At St. Martin's School a large airy class-room has been added, and the district water has been laid on.

**Canal Boats.**—The canal boats have been carefully inspected and found clean and in order.

**The Burial-grounds** are in good condition and fairly well drained. It is suggested that the new addition to All Saints' Churchyard should be laid out and planted by the church authorities.

**Summary of Requirements.**—The Medical Officer of Health concludes his Report by submitting for the further consideration of the District Council the following requirements:—

1. The provision of a small Isolation Hospital.
2. The provision of means for disinfecting bedding, &c.
3. An arrangement for the regular emptying of ashpits, &c.
4. The registration of slaughter-houses and bakehouses.
5. Regulations made under the Dairies, Cow-sheds and Milk-shops Order.

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## MIDDLEWICH.

### Urban District.

Medical Officer of Health—After Sep. 12th, the COUNTY MEDICAL OFFICER.

Population at Census, 1891—4001.

Estimated population in middle of 1895—4750.

Area in acres—1095.

Birth-rate per 1000 living—36.2.

Death-rate per 1000 living—20.8.

Death-rate from seven principal Zymotic diseases—2.9.

Deaths under one year to 1000 births—186.

This Urban District includes the whole of the parish of Middlewich and parts of the parishes of Newton and Kinder-ton-with-Hulme.

During 1895 the number of births registered in this district was 172, and the number of deaths registered (including one in the Workhouse) was 99. The mean birth-rate during the three years 1892-94 was 42.4. The mean death-rate during the same three years was 18.6. Thus in 1895 the birth-rate was distinctly lower than in recent years, and the death-rate was distinctly higher than in recent years.

The number of births registered in the first quarter was 36, in the second 36, in the third 48, and in the fourth 52.

The number of deaths registered in the first quarter was 26, in the second 28, in the third 16, and in the fourth 29. The death-rate was therefore low in the third quarter only.

**Infant Mortality.**—Thirty-two of the deaths recorded were of infants under one year old, viz.:—5 convulsions, 5 debility or marasmus, 4 teething, 4 premature birth, 4 bronchitis or pneumonia, 4 diarrhoea, 3 whooping-cough and 3 spina bifida. Five were registered in the first quarter of the year, 11 in the second, 3 in the third, and 13 in the fourth. Nineteen of the whole number were under six months old at the time of death. The proportion of infant deaths to each 1000 births in 1895 was 186. In the three years 1892-94 it averaged 140. The mortality among infants was therefore exceptionally high.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 53, viz. :—49 scarlatina, 1 croup, 1 typhoid fever, 1 puerperal fever, and 1 erysipelas. Four were notified during the first quarter, 7 during the second, 10 during the third, and 32 during the fourth. The deaths from notifiable diseases were 3, viz. :—1 scarlatina, 1 croup, and 1 puerperal fever.

**Scarlatina.**—Two cases of this disease occurred in January, and 5 in June, but the disease did not spread. However, on August 24th the disease re-appeared and prevailed somewhat to the end of the year. As there were no means of isolating first cases, in many instances scarlatina was communicated to several members of the same household. Towards the end of the year the family of a dairyman became infected, and some difficulty was experienced in taking those measures for the protection of the public which it was thought the occasion needed. Accordingly, on December 16th the Medical Officer of Health advised the District Council to adopt the Infectious Disease (Prevention) Act, 1890, and early in 1896 a motion was submitted to the Council that the Clerk be instructed to take all necessary steps for the adoption of the said Act. It was pointed out that Section 4 of this Act would give the District Council power to order a dairyman to discontinue supplying milk in cases similar to the above, and that other Sections would confer useful powers not otherwise possessed.

**Whooping-cough** was generally prevalent in the town during the first four months of the year, and during this period was the primary cause of 7 deaths. Those who thus died were all very young children (3 years old or under), and in every instance pneumonia was entered in the death-certificate as a secondary cause of death. It appears, therefore, that these children did not die from whooping-cough, but from catching cold while suffering from whooping-cough.

**Diarrhoea.**—The 5 fatal cases of this disease occurred in June, July and October. All those who died were infants.

**Lung Diseases.**—The 8 deaths ascribed to phthisis are equal to a death-rate of 1·6 per 1000, which is rather high. The 12 deaths ascribed to bronchitis, &c., are equal to a death-rate of 2·5 per 1000, which are not abnormal. There was no death directly due to influenza, but there was a suicide, during temporary insanity following influenza.

There were 5 deaths from accidents, viz. : 2 from drowning, 1 from a scald, 1 from a fall of timber, and 1 from injury inflicted by machinery.

**Isolation Hospital needed.**—In June a Committee was appointed to consider the question of providing an Isolation Hospital, but no effectual steps have yet been taken for making the needed provision. The Medical Officer of Health strongly advises that Hospital provision should be made jointly by the Urban Districts of Middlewich, Northwich and Winsford, and the Rural District of Northwich.

**Disinfecting Apparatus needed.**—Doubtless when the matter of providing an Isolation Hospital is taken in hand, provision will also be made for disinfecting infected bedding, bedclothes, wearing apparel, &c. A suitable apparatus for disinfecting by steam can now be obtained at moderate cost, and one is certainly required.

**Houses unfit for Human Habitation.**—A small block of houses was reported upon in December as being defective in various ways. This block consists of six dwelling-houses occupied by working men, and all were certified by the Medical Officer of Health as unfit for human habitation. It was recommended that steps should be taken to prohibit the using thereof for that purpose, and the matter was under consideration at the end of the year.

**Sanitary Inspection.**—This subject has received much attention from the District Council during the year. It was felt that the existing arrangements for systematic inspection were less than satisfactory, and it was decided towards the close of the year to employ a Sanitary Inspector who could give his whole time to this work. It is believed that when the new officer enters upon his duties a great improvement will be effected.

**Canal Boats.**—These have certainly not been inspected as they should have been, and the fact that the Inspector has reported no offences under the Canal Boats Acts is no proof that the regulations have been carried out.

## MOTTRAM.

Urban District.

Medical Officer of Health—DR. W. E. S. BURNETT.  
Population at Census, 1891—3270.

Estimated population in middle of 1895—3270.

Area in acres—1084.

Birth-rate per 1000 living—30·2.

Death-rate per 1000 living—15·2.

Death-rate from seven principal Zymotic diseases—1·5.

Deaths under one year to 1000 births—121.

The Urban District of Mottram-in-Longdendale includes Broadbottom.

In 1895, the number of births registered in the district was 99, and the number of deaths registered in the district was 50. The birth-rate was 2·1 above the mean birth-rate in 1892-94, and the death-rate was 5·3 below the mean death-rate in 1892-94. Twelve of those who died were under one year old.

One death was due to typhoid fever, 4 were due to diarrhoea, 6 to phthisis, 7 to bronchitis or pneumonia, and 7 to heart disease.

**Infectious Disease notified.**—Thirty-two cases of infectious disease were notified, viz: 8 scarlatina, 2 diphtheria, 18 typhoid fever and 4 erysipelas.

**Scarlatina.**—All the cases reported, with the exception of an isolated case in Hyde Road, were in the Broadbottom portion of the district. There was nothing of the character of an outbreak, the cases occurring in different parts of Broadbottom from March to September. All were of a mild character. The child who suffered from the disease at Hyde Road had been staying at Oldham, and was sent home with the disease upon her. As scarlatina was very prevalent in Hyde, and there is constant intercourse between the inhabitants of that district and Mottram, there is little doubt that the infection was periodically brought from Hyde to Mottram.

**Diphtheria.**—The two cases of this disease were notified in December. As regards one (at Mottram Moore), no insanitary conditions were observed where it occurred. The premises, in the Hague, where the other case occurred, had a filthy cesspool, and were otherwise insanitary.

**Typhoid Fever.**—Two cases of typhoid fever, 1 in January in Old Street, and the other in May in Gorsey Brow, were followed by an outbreak of the same disease in August and September. Of the 18 persons attacked one died. The Medical Officer of Health investigated the cases as reported to him, and is satisfied neither the milk nor the water-supply played any part in the origin or spread of the disease. The milk was supplied from six different vendors, whose farms were made the subject of inquiry; and all the houses where the disease appeared were supplied with the town's water, of which several samples were tested and found pure. At the time the outbreak occurred the old main sewer at Broadbottom was opened and left open for many weeks, during the laying of the new main

sewer, and as the sewage from the locality of Gorsey Brow emptied itself into the old sewer, the Medical Officer of Health has no doubt that typhoid germs emanated from the old sewer and originated the outbreak in August. All the cases occurred in two or three streets in close proximity to the open sewer.

**Erysipelas.** On investigating the 4 cases of this disease it was found that in 2 the sufferers were poorly fed and lived in uncleanly houses, amid conditions likely to favour the malady.

**Water-supply and Milk.**—The water-supply has been abundant and good throughout the year. There are no milk shops in the district, the milk being supplied from farms outside.

**Refuse Removal.**—In December one of the Medical Inspectors of the Local Government Board (Dr. Fletcher) made a sanitary inspection of the whole district with respect to the necessity of improved scavenging in the district, as suggested by the Medical Officer of Health. The following morning he attended a meeting of the District Council and recommended the adoption of certain measures. The Scavenging Committee have since entered into a contract with a view of emptying middens, &c., at shorter intervals, and are procuring a proper covered cart for the work.

**Inspection.**—Periodical inspections have been made by the Medical Officer of Health and Inspector, most attention being given to parts most requiring it. Lodging-houses and slaughter-houses have been inspected.

There are no offensive trades carried on in the district or neighbourhood.

**Main Sewer and Sewage Disposal.**—A main sewer has been laid through Market Street, Mill Brow, Well Row, and Summerbottom to the outfall works at Hodge Fold. The outfall works are now completed, but the connections from the various properties *en route* have not yet been made. The Local Government Board has been applied to for a further loan to complete this portion of the work. When finished the undertaking will effect a great improvement.

**Nuisance Abatement.**—The Inspector has attended to a large number of nuisances—defective or obstructed drains, filthy closets, overflowing middens, &c.—and obtained their abatement. New drains have been laid, rain-spouts have been disconnected from the drains and made to deliver on traps, additional closets have been built, others have been re-constructed, middens have been roofed in, &c.

## NANTWICH.

## Urban District.

Medical Officer of Health—After Sept. 12th, the COUNTY MEDICAL OFFICER.

Population at Census, 1891—7,412.

Estimated population in middle of 1895—7,500.

Area in acres—703.

Birth-rate per 1,000 living—31·0.

Death-rate per 1000 living—16·5.

Death-rate from seven principal Zymotic diseases—0·5.

Deaths under one year to 1,000 births—141.

As at the Census, 1891, the population of Nantwich was found to be 83 less than at the Census taken in 1881, there is some difficulty in estimating the present population. There is certainly evidence that the population has not decreased since 1891, but that there has been a slight increase; and probably 7,500 is a proximately correct estimate for the middle of the year 1895.

In this year the number of births registered in the district was 233, and the number of deaths registered in the district was 151. However 45 of the deaths registered took place in the Workhouse, and 27 of these were of persons not belonging to the town. The number of deaths belonging to the Urban District was therefore 124. The mean birth-rate during the three years 1892-4 was 32·6. The mean death-rate during the same three years was 20·8. Thus in 1895 the birth-rate was 1·6 below the mean of recent years, and the death-rate was 4·3 below the mean of recent years.

The number of births registered in the first quarter was 55, in the second 59, in the third 61, and in the fourth 58. The number of deaths belonging to the district, in the first quarter, was 33, in the second 37, in the third 25, and in the fourth 29.

**Infant Mortality.**—Thirty-three of the deaths recorded were of infants under one year old, viz. :—9 marasmus, 7 bronchitis or pneumonia, 6 convulsions, 5 inflammation of stomach and bowels, 4 premature birth, 1 congenital disease of heart, and 1 eczema. Six were registered in the first quarter, 4 in the second, 11 in the third, and 12 in the fourth. Twenty six of the 33 infants were under six months old at the time of death.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 20, viz. :—11 scarlatina, 3 diphtheria, 1 membranous croup, and 5 erysipelas. Twelve of these were notified during the last quarter. The number of deaths from notifiable diseases was 4, viz. :—2 diphtheria and 2 croup.

**Scarlatina.**—There was one case of this disease notified in September, 2 cases were notified in October, 5 in November, and 3 in December. Five of the cases were in the Barony.

The case notified in September was imported into the Workhouse from the Rural District. This was not a safe procedure, and there would have been no occasion for it had the Rural District provided an Isolation Hospital.

**Diphtheria and Croup.**—The notification of these diseases, in this district and in some others, is a little uncertain. The first death registered from croup was of a child, 4 years old—this case occurred in January and was not notified. The other death registered from croup was of a child 2 years old—this case was only notified about the time of death, which took place on June 20th. On July 10th a case of diphtheria was notified, and on July 15th a younger child (2 years old) of the opposite sex in the same family died from this disease unnotified. Of two cases notified as diphtheria at the end of November, belonging to the same family, one (a child of 2 years old) proved fatal. Thus of two fatal cases of croup, only one had been notified, and of two fatal cases of diphtheria only one had been notified.

**Erysipelas.**—A case of this disease was notified in January, 3 cases occurred in March and one in April. All terminated in recovery.

**Influenza** was only certified as the cause of one death. The death occurred on March 16th, and the subject was a man 45 years old.

**Lung Diseases.**—Phthisis was the registered cause of death in 6 cases. This is equal to a death-rate of 0.8 per 1000 living, which is not high. Bronchitis or pneumonia were the causes of death in 25 cases, being equal to a death-rate of 3.33 which is somewhat high.

**Heart Disease** was certified as the cause of death in 20 cases. This number of deaths is equal to a death-rate of 2.66 per 1000 living, which is a decidedly high rate.

**Intemperance** was the assigned cause of death in one instance. The subject was a man 66 years of age, the cause of whose death was inquired into by the Coroner. The verdict of the Coroner's Jury was that the man died "from excessive drinking."

**Deaths from Injuries.**—There were only 2 deaths coming under this description. One was that of a child (of 5 years) accidentally drowned in July, and the other that of a child (of 3 years) accidentally burned to death in November.

**Isolation Hospital needed.**—As there is no means of isolating and treating cases of dangerous infectious disease which cannot be properly isolated and treated at their own homes, hospital accommodation is certainly required. The best (and probably the most economical) way of making efficient hospital provision would be for Nantwich Urban District to combine with Nantwich Rural District, and form a "Hospital

District." As regards the extent of accommodation which should be furnished—about one bed for every 1000 of the population would be sufficient.

**Disinfecting Apparatus needed.**—After cases of infectious disease are convalescent, infected bedding and similar articles (which cannot be boiled) should be disinfected by steam. As this can only be done in a special apparatus, one should be obtained by the District Council, and arrangements made for working the same.

**Scavenging and Refuse Removal.**—The Inspector, Mr. Herbert Gentry, has charge of this important work. He employs 12 men and 3 horses, in sweeping the streets and removing the sweepings, and in emptying the closet-pails and removing the contents. The stuff gathered is sold by tender each year and carted away about a mile from the town.

There are over 1100 pail closets which are cleansed weekly. The older closets (midden-closets) are emptied as required by two men who are paid at the rate of 2/- per closet emptied. These closets or cesspools are converted into pail-closets when practicable—13 were converted during the year.

The main sewers are constructed with settling tanks (12 in all) for intercepting the solids, and these are cleaned out once a month or oftener.

**New Houses.**—Four new houses were built during the year. These were fitted with w.c.'s and properly drained.

**Common Lodging-houses** receive full attention. There are 5 on the register, and these were visited daily, and several midnight visits were also made. They were found clean and in order, and the bye-laws were observed.

**Dairies, &c.**—The dairies, cow-sheds and milk-shops (there are in all 22 in the district) were regularly inspected throughout the year. They were in fair order and the cleansing and lime-washing was attended to.

**Slaughter-houses.**—There are 15 registered slaughter-houses in the district. The Inspector reports that during the past year he has had far less trouble than of late in getting the tenants to remove the offal promptly and keep the premises in order.

Towards the close of the year applications were made in respect of two premises to have them licensed as slaughter-houses. In each instance the matter was referred to the Medical Officer of Health, and on receiving his report the Council refused to license the premises.

**Canal Boats.**—There were 61 canal boats carefully inspected during the year. Of these two were condemned as unfit to be used as dwellings. The remainder were found clean and in good order.

## NESTON AND PARKGATE.

## Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—3577.

Estimated population in middle of 1895—3653.

Area in acres—3260.

Birth-rate per 1000 living—42·4.

Death-rate per 1000 living—26·0.

Death-rate from seven principal Zymotic diseases—3·5.

Death under one year to 1000 births—225.

This Urban District consists of Little Neston, Great Neston, and Leighton. The area and population are given as follows :—

			Area in Acres.		Population at Census.
Little Neston	...	...	1214	...	1012
Great Neston	...	...	1405	...	2240
Leighton (including Moorside)		641	...		325

Parkgate is on the east bank of the river Dee, and is situated partly in the township of Great Neston and partly in Leighton.

In 1895, the births registered in the district numbered 155. The deaths (including 11 that occurred in the Workhouse of persons belonging to the district) numbered 95. Both birth-rate and death-rate are very high.

The proportion of deaths among infants is exceptionally large. The assigned causes of the 35 deaths of infants are mainly premature births, debility, whooping-cough, diarrhoea, and convulsions.

The deaths from zymotic diseases were as follows :—1 scarlatina, 1 membranous croup, 1 puerperal fever, 1 erysipelas, 7 whooping-cough, and 4 diarrhoea. There were also 4 deaths from phthisis, 10 from bronchitis or pneumonia, 7 from heart disease, and 4 from injuries.

The death-rate from the seven principal zymotic diseases was equal to the high mean (3·5) recorded in the 3 years 1892-94.

Eighteen cases of infectious disease were notified, viz. :—11 scarlatina, 6 typhoid fever and 1 puerperal fever. Six of the scarlatina cases and 5 of the typhoid fever cases were removed to hospital. Two of the scarlatina cases occurred in January, 2 in February, 2 in March, 3 in June and 2 in July. Two of the typhoid fever cases occurred in October and 4 in November. The last of the cases of typhoid fever was imported, the patient having arrived in the district with the disease upon him. A short time before this 3 cases of typhoid fever occurred simultaneously in two contiguous houses, which were far from clean. After the removal of the patients the premises were thoroughly cleansed. The two remaining cases were in

houses of the better class. The one not removed was well isolated at home.

In all the notified cases the premises on which they occurred were inspected and action taken for remedying any defects discovered. Disinfection and cleansing were undertaken by the District Council in each case. In the case of puerperal fever the bedding was burned and compensation granted.

The Medical Officer of Health visited the district from time to time, making special inspections and investigating cases of infectious disease. In June he made a general inspection of the district, and reported for the guidance of the Council on various points in connection therewith. Good progress is being made.

In November the Medical Officer of Health took a sample of the water with which the district is generally supplied from a pipe in direct connection with the main at Parkgate and analysed it. The water proved of the highest purity, being almost absolutely free from organic matter.

In the course of the year 700 yards of water-mains have been laid. Seven houses have been newly supplied with water.

Neston and Parkgate are now well sewered, and the sewerage of Little Neston is now being completed.

At Little Neston, Bull Hill sewer (224 yards in extent) has been laid, and the sewer up the village to Lee's Lane has been relaid (deeper) for a distance of 80 yards. Men are still at work on the Mellock Lane sewer.

The sewers are flushed every week.

Mr. Morris, the Inspector, takes great interest in his work. He reports that he has inspected 600 houses monthly and 300 a second time in each month. Six privies have been converted into water-closets, and 3 privies and ash-pits have been re-constructed. Four new houses have been built, each with a water-closet.

The District Council undertake the emptying of ash-pits. In some instances the work is done every week.

Several suspected cases of overcrowding have been investigated.

The Model Bye-Laws of the Local Government Board, with respect to New Streets and Buildings, have been in force since the end of 1893.

Isolation Hospital accommodation is provided through the Joint Hospital Board to which this district contributes.

## NORTHWICH.

### Urban District.

Medical Officer of Health—After Sept. 12th, the COUNTY MEDICAL OFFICER.

Population at Census, 1891—14914.

Estimated population in middle of 1895—17400.

Area in acres—1388.

Birth-rate per 1000 living—40·0.

Death-rate per 1000 living—21·3.

Death-rate from seven principal Zymotic diseases—2·7.

Deaths under one year to 1000 births—198.

This Urban District includes the parishes of Witton-cum-Twambrooks (including a formerly detached part of the parish of Leftwich), Northwich and Castle Northwich, and parts of the parishes of Hartford, Winnington and Leftwich.

During 1895, the number of births registered was 697, and the number of deaths registered was 385. Twenty-nine of the deaths occurred in the Union Workhouse and 9 in the Victoria Infirmary. Fourteen of these 38 deaths were of persons not belonging to this Urban District and have been added to the deaths in the districts to which they belonged. The number of deaths is thus reduced to 371. The mean birth-rate during the three years 1892-94 was 39·8. The mean death-rate during the same three years was 22·3. Thus in 1895 the birth-rate was 0·2 higher and the death-rate was 1·0 lower than in the three years immediately preceding.

The number of births registered in the first quarter was 184, in the second 158, in the third 178, and in the fourth 177. The number of deaths (deducting those not belonging to the district) registered in the first quarter was 72, in the second 81, in the third 86, and in the fourth 132. The death-rate in the four quarters was 16·5 in the first, 18·6 in the second, 19·7 in the third, and 30·3 in the fourth. The death-rate was therefore remarkably high in the last quarter, and this was due, as will be seen, to the exceptional mortality from measles and diseases of the lungs.

**Infant Mortality.**—One hundred and thirty-eight of the deaths recorded were of infants under 1 year old, viz. :—28 convulsions, 24 debility or marasmus, 20 inflammation of the stomach and bowels, 11 diarrhoea, 15 bronchitis or pneumonia, 8 measles, 17 premature birth, 2 malformation at birth, 7 tuberculous diseases, 3 thrush, 2 syphilis and 1 starvation. Eighteen were registered in the first quarter of the year, 33 in the second, 46 in the third and 41 in the fourth. Of the 138 infants 100 were under 6 months old at the time of death.

The proportion of deaths of infants to births was equal to 198 per 1000 in 1895. In the three years 1892-94 it averaged 191 per 1000. Thus about 1 in 5 of the children born in Northwich die before completing their first year. A glance at the registered causes of death given above suggests that many of these deaths might have been prevented.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 103, viz. :—2 small-pox, 65 scarlatina, 5 typhoid fever, 8 puerperal fever and 23 erysipelas. Of the

whole number 34 were notified in the first quarter, 20 in the second, 16 in the third, and 33 in the fourth. Only 2 were removed from home.

**Small-pox.**—On June 25th a notification of a case of small-pox was received. The patient was a woman, 34 years old, residing at Chapel Street, Castle Northwich, and in two hours' time she was removed to the temporary Isolation Hospital at Wade Brook, where she died on July 1st. She had been vaccinated in infancy and the marks of this were fairly distinct. The eruption was confluent, and the course of the disease very severe. This patient was a domestic servant, the wife of a coachman, and the only possible way she could account for the disease was that she caught it from a sick tramp who came to the door to beg, several days (she could not remember how many) before. On July 29th a second case of small-pox was notified. The patient was a lad, 16 years old, residing at Royal Street, Penny Lane, and he was removed to the temporary Hospital in less than an hour. He had been well vaccinated in infancy. The eruption was discrete and the course of the disease very mild. Patient was a school pupil at the time he was attacked, and the attempts made to trace the source of the disease were unsuccessful. He was discharged from Hospital quite well in three weeks. The cost of the first case to the Local Authority was £21 18s. 6d., and the cost of the second case was £18 9s. 8d.

**Scarlatina.**—Cases of this disease were notified every month in the year, but 35 of the 65 cases occurred in the last three months. The disease was not confined to any part of the town. In all 3 deaths were recorded—1 in March, October and November respectively. The ages of those who died were 7 years, 4 years and 3 years.

**Typhoid Fever.**—Five cases of this disease were notified, one respectively in May, July, August, October and November. All these did well. However 2 patients, who were not notified as having the disease, were certified as having died from it—one in January and one in September.

**Puerperal Fever.**—Seven cases of this disease were notified in the first quarter of the year and one in the last. Two of the notified cases terminated fatally and so did another case not notified.

**Erysipelas.**—Twenty-three cases were notified, 17 of which occurred during the first half of the year. One of these terminated fatally in April.

**Measles** was exceptionally prevalent during the last four months of the year. There is no ready way of estimating the number of cases, but there must have been many hundreds of cases. The number of deaths ascribed to this disease was 28, that is 2 in September, 8 in October, 11 in November, and 7 in

December. In one house 3 fatal cases occurred, in another 2 fatal cases, and in yet another 2 fatal cases. In 15 out of 28 cases bronchitis or broncho-pneumonia was entered in the certificate as a secondary cause of death, showing that in many cases children having the disease were not as carefully attended to as they should have been. Owing to the prevalence of the disease, on the recommendation of the Medical Officer of Health, 2 schools were closed on October 22nd and a third a fortnight later.

**Diarrhoea** was certified as the cause of 12 deaths. The first of these deaths was on June 20th and the last on September 23rd. All those who died from this disease were infants, the oldest being 17 months at the time of death.

**Influenza** was prevalent to some extent throughout the year. Four deaths were registered as due to this disease, viz. : 2 in March, 1 in June and 1 in November. One of those who died had not completed his second year, one was 27 years old, another was 45 years old and the fourth was 68 years old.

**Bronchitis and Pneumonia.**—Of the 75 deaths from these diseases 30 occurred in the last quarter of the year. The annual death-rate from these causes was equal to 4.3 per 1000 living, which is decidedly high.

The deaths from injuries are not numerous. They include a death from the fall of an iron gate, two deaths from severe burns and two from drowning.

Two deaths were registered as due to alcoholism and one as due to alcoholic convulsions. Those who died were men between 40 and 50 years old.

**Isolation Hospital needed.**—The old building at Wade Brook and the marquee, which have been used from time to time in recent years for the isolation of occasional cases of small-pox, have doubtless been of great service to the Urban District ; but something further and better for the isolation of the infectious sick will have to be provided in the near future.

In November plans and sections prepared by the Surveyor, for improving the old building and adding thereto, were under the consideration of the District Council, but on the advice of the Medical Officer of Health the work was not proceeded with. It was pointed out that the best way of making hospital provision would be by doing so jointly with Northwich Rural District and the Urban Districts of Winsford and Middlewich ; but that if the District Council decided to make separate provision, a building would be needed furnishing at least four wards (say for 5 beds each) in two pairs, on the lines laid down in the official Memorandum "on the Provision of Isolation Hospital Accommodation by Local Authorities" lately issued by the Medical Department of the Local Government Board.

**Disinfecting Apparatus needed.**—When an Isolation Hospital is erected, or sooner, proper provision should be made for disinfecting infected bedding, bed clothes, wearing apparel, &c. Suitable appliances may now be obtained at moderate cost, and one is certainly required.

**Systematic Inspection.**—The town is for inspection purposes divided into four parts, and each part is methodically visited by Mr. Charles Potts once a month. Nuisances are thus often discovered, and the abatement of many is obtained promptly and in an informal manner.

**Abatement of Nuisances.**—There were 109 notices served requiring the abatement of various nuisances. In this way 25 cesspool closets were converted into pail-closets, 30 old closets were pulled down and re-constructed, many lengths of sewers which had sunk were relaid, many courts were channelled and many yard-drains were cleansed, repaired and trapped. On two occasions the notice to abate a nuisance not having been complied with a Justices' order was applied for and obtained, and eventually the required work was done.

**Overcrowding.**—Six cases of overcrowding were reported during the year. They appeared to be due to the scarcity of dwelling-house accommodation. In each case the crowding was reduced as soon as possible.

**Refuse Removal.**—The work of the contractor for removing refuse is carefully supervised. The house-refuse is mostly deposited on land outside the town, but some is allowed to be used for filling up holes occasioned by subsidence. The latter is an insanitary practice, and should be stopped. Land "levelled up" in this way by means of house-refuse may in the course of a year or two be used as a site for dwelling-houses, and if so the tenants of such houses will suffer more or less from living over a foul foundation.

**School Accommodation.**—During October the Medical Officer of Health, accompanied by Mr. C. Potts, made an inspection of the schools in the district. As a rule they seemed fairly satisfactory, but in several there was no proper cloak-room, or the cloak-room was without through-ventilation. It was also pointed out that in many of the schools (new as well as old) the rain-spouts were directly connected to the drains, and that thus foul air from drains and sewers was delivered round certain schools and into playgrounds. The connections should be severed and the rain made to deliver on traps.

**Common Lodging-houses.**—There are 8 such houses on the register. They are inspected from time to time day and night. The Sub-Inspector reports that they are generally kept clean and in good order, and that the law as regards common lodging-houses has not been transgressed.

**Dairies, &c.**—There are 9 registered dairies, &c., all of which are periodically inspected. The Sub-Inspector sees that they are kept clean, and regularly lime-washed.

**Slaughter-houses.**—There are 15 registered slaughter-houses, all regularly inspected once a month. During the year one was condemned and removed from the register. The remainder are reported clean, and regularly limewashed.

**Canal Boats** have been inspected throughout the year. There are at present 13 boats under inspection. In some instances the owners have been called on to paint, cleanse or repair, but no infringement of the Canal Boats Acts has been reported.

**RUNCORN,**  
**Urban District.**

Medical Officer of Health—DR. F. McDougall.

Population at Census, 1891—20050.

Estimated population in middle of 1895—18500.

Area in acres—1179.

Birth-rate per 1000 living—32.7.

Death-rate per 1000 living—21.0.

Death-rate from seven principal Zymotic diseases—6.5.

Deaths under one year to 1000 births—209.

This district includes Higher Runcorn.

It will be noted that the population of the district, as estimated for the middle of the year 1895, is 1550 less than the population enumerated at the date of the Census. This estimate appears to be warranted by the depressed state of trade locally.

In 1895, the number of births registered in the district was 605, and the number of deaths registered in the district was 390. To this number of deaths should be added 12 deaths of persons belonging to the district, which took place in the Workhouse at Dutton. Of these deaths 127 were of infants under one year old, and 55 were of persons 65 years old and upwards. The death-rate is 0.1 higher than the mean death-rate in 1892-94. The proportion of deaths among infants is very high, more than a fifth of those born having died during the first year.

**Cases of Infectious Diseases notified.**—The number of cases of infectious diseases notified, in 1895, was 373, viz. : 274 scarlatina, 25 diphtheria, 7 membranous croup, 15 typhoid fever, 14 continued fever, 3 puerperal fever, and 35 erysipelas. The number of cases notified in 1894 was 313, and the number notified in 1893 was 546.

**Zymotic Mortality.**—The number of deaths from zymotic diseases was 122, viz. : 10 scarlatina, 10 diphtheria, 2 membranous croup, 2 typhoid fever, 1 erysipelas, 63 measles, 1

whooping-cough and 33 diarrhoea. The death-rate in respect of the seven chief zymotic diseases (6.5) is very high. It will be seen that more than half of this death-rate is due to the mortality from measles. This zymotic death-rate was 2.9 in 1894 and 7.1 in 1893.

**Scarlatina** has been more or less prevalent during the whole year, but the type of disease throughout has been mild. The proportion of those who died (3.6 per cent. of the cases reported) was small. The largest monthly totals were in October and November, the smallest totals were in January and August. The 274 cases occurred in 180 houses. Seven of the ten who died from scarlatina were under 5 years of age.

**Diphtheria and Croup.**—Several well-marked cases of typical diphtheria came under notice, and in one case insanitary conditions were discovered on the premises that might probably account for the attack. Very young children were chiefly affected. Of the 10 deaths from diphtheria 8 were of infants under a year old. All the deaths were in the first 8 months of the year. The two deaths ascribed to croup were of infants.

**Typhoid and Continued Fever.**—The 15 cases notified as typhoid fever and 14 cases notified as continued fever in 1895 compare favourably with 30 of the former and 37 of the latter in 1894, and 82 of the former and 142 of the latter in 1893. As 2 died out of the 29 attacked the mortality was about 6.9 per cent. Two of the cases of typhoid fever occurred in a house in a street where quite a number of cases of typhoid fever have appeared in former years. The houses are comparatively new, and it was difficult to trace the actual cause of these recurring attacks. On several occasions before the onset of the disease the members of the family were driven out of the house by bad smells coming from the yard traps, and during the progress of the illness the Medical Officer of Health had experience of this nuisance. It was thought that as the drain was not properly ventilated, the water was occasionally syphoned out of these traps. The back passage drain, on being examined, was found free from sewage and silt. By the direction of the Authority inlet and outlet ventilators were placed in suitable positions, and the drain was trapped before it joined the street sewer.

**Puerperal Fever** was represented by 3 cases only, in 1895, all of which terminated in recovery. In 1894 there was one death from this disease, and in 1893 there were 3 deaths.

**Erysipelas.**—The 35 cases reported in 1895 and one death, compare favourably with the record as regards erysipelas in the two years immediately preceding. In 1894 there were 41 cases and 2 deaths, and in 1893 there were 55 cases and 4 deaths.

**Measles** became epidemic in June. The disease is not required to be notified, so that there may have been cases before

this. At first the north-east part of the town suffered most, but in July and August the epidemic spread to other parts, and by the middle of September it had abated. Seventeen deaths were registered in June, 28 in July, 17 in August and 1 in September. Thirteen of those who died were under a year old, 30 were over a year and under two years, 19 were over 2 years and under 5. Thus only one had reached the age of 5 years. Early in June two of the Infant Schools first attacked were closed, with good results, and two other Infant Schools in the north-west part of the town were closed at the end of June, with good results. These schools remained closed till after the midsummer holidays, that is they were not reopened till about the middle of August.

**Bakehouses, Dairies, &c.**—All the bakehouses in the town have been inspected during the year. There are 38 milk-shops and 13 cowsheds within the district, and all have been regularly supervised. Only in one instance was there cause for complaint.

**Common Lodging-houses.**—These are registered and have been regularly inspected. Only in two instances has there been any cause for complaint.

**Workshops.**—Twenty-three workshops have been visited and inspected during the year. In one the Inspector reports the sanitary accommodation was insufficient, and in two the ventilation was inadequate.

**Excremental Disposal.**—The Medical Officer of Health is pleased to report that water-carriage has made steady progress during the year. He hopes that in time it may entirely supersede the old filthy method of allowing large quantities of feculent matter, and other offensive refuse, to accumulate for indefinite periods at people's back doors. Thirty-five w.c.'s with flushing cisterns were provided during the year, and 62 w.c.'s with "tippers," besides 2 trough-closets.

**Nuisance Abatement.**—The Inspector (Mr. Percival) furnishes information on this most important subject. The number of nuisances discovered or brought to the knowledge of the Inspector, was 593, the number abated was 578 and the number outstanding on December 31st, 1895, was 15. The number of preliminary notices issued in respect of these nuisances was 331, and the number of statutory notices served was 28. A large number of nuisances were owing to various defects at dwelling houses:—defective drains, soil-pipes, and gully traps, obstructed drains, sinks directly connected to drains, insanitary ash-pits and privies, defective rain-spouts, unpaved yards and passages, &c., houses without proper ventilation, without proper water-supply, &c., with stagnant water in the cellars, dirty houses, &c. Three houses, unfit for human habitation were closed. Two smoke-nuisances were dealt with.

In 16 cases accumulations of manure or other refuse were removed.

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### SALE.

#### Urban District.

Medical Officer of Health—DR. J. S. WITHERS.  
 Population at Census, 1891—9,644.  
 Estimated population in middle of 1895—11,200.  
 Area in acres—2,006.  
 Birth rate per 1000 living—22·5.  
 Death-rate per 1000 living—13·9.  
 Death-rate from seven principal Zymotic diseases—0·7.  
 Deaths under one year to 1000 births—174

The estimate of the population seems high, but the Medical Officer of Health believes it is not too high. The houses built since the Census are assumed to average the same number of occupants as the houses in the district were ascertained to have at the time of the Census.

During 1895 the number of births registered was 252, and the number of deaths registered was 156. The birth-rate is 2·8 below the mean birth-rate in 1892-94; and the death-rate is 0·1 below the mean death-rate in 1892-94.

The number of deaths from the principal zymotic diseases, in 1895, was 8, viz. :—1 scarlatina, 2 diphtheria, 2 whooping-cough and 3 diarrhoea. There was 1 death from rheumatic fever. There were also 11 deaths from phthisis, 37 from bronchitis or pneumonia and 10 from heart disease.

**Cases of Infectious Disease notified.**—The number of cases of infectious disease notified was 72, viz. :—41 scarlatina, 14 diphtheria, 6 typhoid fever, 2 puerperal fever, and 9 erysipelas. Of these 4 cases of scarlatina and 6 of diphtheria were sent to Monsall Hospital.

**Scarlatina.**—During the whole year this disease was prevalent in a mild form. Four cases were notified in the first quarter, 10 in the second, 17 in the third and 10 in the fourth. A total of 41 cases with but 1 death compares favourably with the record of 1894 (71 cases and 4 deaths). Fourteen of the 41 scarlatina patients were under 5 years of age.

**Diphtheria.**—As already stated 14 cases were notified—3 in the first quarter, 1 in the second, 1 in the third and 9 in the fourth. Although inquiry into the origin of each of these cases was made at the time of its occurrence, only those due to direct infection from someone already suffering in the same house could be accounted for. Three cases occurred in February in the same house within a short interval of each other, 2 of them being certainly due to want of isolation. The

remaining 11 cases occurred in 8 houses, in various parts of the district. In none of these was any sanitary defect discovered. Three of the 14 diphtheria patients were under 5 years of age.

**Typhoid Fever.**—The 6 cases of this disease all recovered. In 2 at least the disease occurred outside the district ; whilst a third case appeared to be due to infection derived from one of these. In the remaining 3 cases no cause was ascertained.

**Phthisis** caused 11 deaths, the number of cases is not known. As this is not one of the diseases required to be notified, no opportunity is afforded of enforcing measures calculated to prevent its spread.

**Need of Isolation Hospital, Disinfecter and Mortuary.**—In the matter of an Isolation Hospital and disinfecting apparatus the District is still in the same position. All infected bedding, &c., has to be sent to Manchester, and all those cases of infectious disease which urgently call for hospital treatment (where the patient is willing and able to bear the journey) are removed to Monsall Hospital.

From the public health point of view the Medical Officer of Health considers that the chief requirements of the town are a small Isolation Hospital, a disinfecting apparatus and a public mortuary.

**Work done and Nuisances abated.**—With scarcely any exception, the houses in which infectious disease has occurred have been visited. The best available precautionary measures have been pointed out, and a careful disinfection at the hands of the Council's officers insisted on. Regular inspections of those parts of the District in which sanitary defects are most likely to be found have been made, and the results recorded in a monthly report. During the year nuisances from the following causes have been dealt with:—defective or obstructed house drains, defective privies and ash-pits, insufficient water-supply and rubbish deposited. Action was also taken with reference to a bakehouse unfit for the purpose.

Regular inspections have been made of all lodgings and slaughter-houses.

**Sewer Ventilators.**—There have been complaints from time to time of nuisance arising from sewer ventilators. Though these complaints have been fewer than usual there is still room for improvement.

In some of the roads there has been a nuisance from dust in the summer, through inadequate watering.

**The new Sewage Scheme.**—In a very short time the new sewage scheme will be in working order.

## SANDBACH.

## Urban District.

Medical Officer of Health—After September 12th the  
COUNTY MEDICAL OFFICER.

Population at Census, 1891—5824.

Estimated population in middle of 1895—6240.

Area in acres—2694.

Birth-rate per 1000 living—27.2.

Death-rate per 1000 living—13.9.

Death-rate from seven principal Zymotic diseases—1.4.

Deaths under one year to 1000 births—135.

It is not easy to make a correct estimate of the population of this Urban District. The usual method (calculating that the rate of increase which obtained between the two last census-enumerations will have been maintained) is not applicable in this case, as in Sandbach the population of 1891 was only 331 in excess of the population of 1881. The above estimate is arrived at simply by adding to the population at the Census of 1891, the natural increase (excess of births over deaths) to June 30th, 1895.

During 1895 the number of births registered in this district was 170, and the number of deaths registered (including 10 which occurred in the Workhouse at Arclid of persons belonging to Sandbach) was 87. The mean birth-rate during the three years 1892-94 was 33.8. The mean death-rate during the same three years was 17.3. Thus in 1895 the birth-rate was 6.6 below the mean of recent years, and the death-rate was 3.4 below the mean of recent years.

The number of births registered in the first quarter was 49, in the second 47, in the third 37, and in the fourth 37. The number of deaths, belonging to the district, in the first quarter was 24, in the second 22, in the third 14, and in the fourth 27. The death-rate was therefore remarkably low in the third quarter.

**Infant Mortality.**—Twenty-three of the deaths recorded were of infants under one year old, viz: 7 debility, 4 bronchitis or pneumonia, 3 tuberculous diseases, 3 convulsions, 2 inflammation of stomach, 1 diarrhoea, 1 infantile remittent fever, 1 croup and 1 accidental suffocation. Four were registered in the first quarter, 5 in the second, 3 in the third, and 11 in the fourth. Twelve of the 23 infants were under six months old at the time of death.

**Notification of Infectious Cases needed.**—It is generally admitted that one of the most important means sanitary authorities possess of checking the spread of infectious disease, is the power to require notification of the same. This power (previously obtained in many districts under local Acts) was given to authorities in England and Wales, and compulsory

notification was given to the metropolis, by the Infectious Disease (Notification) Act, 1889. The Act may be adopted by vote of the local authority, after public notice has been given; and it has been adopted throughout Cheshire in all but five districts. Sandbach is one of the districts which have not up to the present appropriated the powers offered. The District Council would do wisely to reconsider this matter at an early date, and take steps for obtaining the regular notification of dangerous infectious diseases. As the Act is not in force locally, the only notice of cases of infectious disease received by the Medical Officer of Health is after they have proved fatal, through the registrar of deaths.

**Croup and Diphtheria.**—The 4 fatal cases of croup occurred respectively in January, May, October and November. Two of those who died were 4 years old, one was 2 years old and one was 11 months old. The death from diphtheria was in December, the subject being a child 3 years old. The cases were not confined to any part of the town.

**Fevers.**—The fatal cases of fever registered include one of puerperal fever in October, one of continued fever in the same month, and one of typhoid fever in November. There was also a case of infantile remittent fever in March.

**Influenza** was the registered cause of death in the case of a child, 6 years old, who died in March. At the Workhouse 3 Sandbach people died from the same disease—2 in March and one in April. One was 46 years old, one 61 and one 69.

**Isolation Hospital needed.**—The only provision made for the isolation and treatment of infectious patients is the wooden building which was erected in 1893, and is jointly available for the Congleton Rural District and for Sandbach and Alsager. As this little hospital could not accommodate more than 8 persons at the same time, and could not receive simultaneously cases of two diseases, it is obvious that it does not adequately supply the needs of three districts, which together have a population of upwards of 21,000. Probably the most satisfactory way of making efficient provision would be for the three Districts to join with the Borough of Congleton and the Urban District of Buglawton, and form a "Hospital District" co-terminous with the Union.

**Disinfecting Apparatus needed.**—When compulsory notification is obtained, and efficient isolation accommodation is provided, the Authority will realize the need of arranging for the disinfection of infected things. After patients have recovered from an infectious disease, their infected bedding and similar articles should be disinfected by steam, and as this can only be done in an apparatus constructed for the purpose, such an apparatus should be procured and made available for the inhabitants of the district.

**Refuse Removal.**—The Surveyor, Mr. Amos Wood, reports that the scavenging work of the District has been carried on with vigour, an exceptionally large amount of time having been devoted to it. During the year 2,400 visits were made for the removal of ashpit refuse, and 12,300 visits were made for the removal of night-soil. Of the latter 566 tubs were collected and sold, the amount realized being £111 7 10. About one-third of the entire cost of scavenging is thus paid for.

**Nuisance Abatement.**—The whole district is regularly inspected at short intervals for the discovery of nuisances, and all nuisances thus brought to light have prompt attention. All reports of nuisances (more than 1000 have been received during the year) are also dealt with forthwith, most of them in an informal manner. No smoke nuisances from factories, &c., have been reported, but complaints have been made of boys burning leather scraps, and this nuisance has been checked.

**Common Lodging-houses.**—There are but 2 common lodging-houses on the register. These have been inspected from time to time and found to be in order.

**Sewers and their Extension.**—The sewers have been kept in repair and in good working order throughout the year. A scheme for completing the drainage of the town has been prepared, and approved by the Local Government Board, and land has been secured for dealing with the sewage. This is a most important work, and it will doubtless be proceeded with as soon as possible.

**New Houses.**—Seventeen new houses have been erected during the year. Structurally and from a sanitary point of view these are a great improvement on the older dwelling-houses. Among the old houses there are more vacant than there have been for years.

**Water-supply.**—The town water-supply continues to give satisfaction. It is beautifully clear in appearance, and the average of hardness has been about 5·2 degrees. The supply has been equal to the demand though the area of consumption has greatly increased. The water mains have been extended during the year on the Bradwall Road and the Heath, and good progress has been made in connecting houses with the mains. The Surveyor's report at the end of the year shows that there are in the district 1341 houses. Of these 72 are off the pipe line, and 114 are supplied from private wells, the water of which has been reported on and approved, while 1122 are using the town's water. Thus only 33 houses have still to be connected and provided with the town-supply, and these are in the localities where the mains have only recently been laid.

**Dairies, &c.,** have been inspected from time to time and found in order. A special Committee has been appointed to

revise and bring up to date the regulations affecting dairies, cow-sheds and milk-shops. After the Committee reports and as soon as the new regulations are sanctioned, all milk vendors will be newly registered and made to conform to the new requirements.

**Slaughter-houses.**—The five slaughter-houses in the District have been inspected from time to time during the year, and are reported to be in order.

## TARPORLEY.

### Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—2,702.

Estimated population in middle of 1895—2,717.

Area in acres—6,194.

Birth-rate per 1000 living—27.6.

Death-rate per 1000 living—19.8.

Death rate from seven principal Zymotic diseases—1.1.

Deaths under one year to 1000 births—146.

This Urban District consists of Rushton, Eaton, Utkinton, and Tarporley. The area and population are given as follows:—

	Area in Acres.	Population at Census.
Rushton ... ... ...	1797	... 324
Eaton ... ... ...	1344	... 461
Utkinton (including Cotebrook)	1889	... 498
Tarporley (including Rhuddall Heath) ... ... ...	1164	... 1419

In 1895, the births registered in the district numbered 75, and the deaths numbered 54. The birth-rate is decidedly lower than in recent years. The death-rate is an improvement on that recorded in 1894 (23.5), but 0.5 higher than the mean death-rate in 1892-94.

There were three deaths from zymotic diseases (2 whooping-cough and 1 diarrhoea), 5 from phthisis, 13 from bronchitis or pneumonia and 2 from heart disease.

Eleven cases of infectious disease were notified, viz.:—8 scarlatina, 1 diphtheria, and 2 typhoid fever. The cases were all isolated as far as possible at home, and there was no appreciable spread of infection. The premises were inspected and disinfectants supplied where needful.

The case of diphtheria was associated with a prevalence of sore throats that had existed for upwards of a month in the neighbourhood, among children attending a school situated outside the Tarporley District. The school premises were examined by the Medical Officer of Health and found in excellent sanitary condition. However, the school was closed for a short time

and cleansed. The prevalence of the throat affection soon abated.

The Medical Officer of Health has pleasure in acknowledging the courtesy of medical practitioners in the district, in answering supplementary questions on the notification forms and doing what they can to prevent the spread of infection.

The District Council are conferring with neighbouring authorities for the purpose of providing Isolation Hospital accommodation for the district.

In May, the Medical Officer of Health made a general inspection of the district, and advised the Inspector, and subsequently the District Council on sundry points of detail in connection with sanitary work.

Special attention has been given to the inspection of 7 milk-farms, 3 slaughter-houses, and 5 bakehouses. These are, generally speaking, in very good condition.

**Water-supply.**—The work of joining houses with the water-mains in Tarporley has been continued, and 23 additional houses have been thus supplied during the year. In all 213 houses have been connected. Beside these domestic supplies, many have been given, for business purposes, to butchers, bakers, dairies, &c.

Of 4 samples of well-water analysed by the Medical Officer of Health, 2 showed indications of surface contamination.

**Sewering.**—The sewerage of the town of Tarporley has been completed, but the sewers cannot be fully utilized till works for purification are ready. These are about to be undertaken.

**Refuse Removal.**—Except in a few instances very little difficulty has been experienced as regards the emptying of privies and ash-pits owing to the almost entirely rural character of the district. The houses are mostly surrounded by agricultural land, and farmers are found willing to do the work. In cases of difficulty the Surveyor intervenes. A number of privies have been re-constructed under the District Council's direction, and several in the town of Tarporley will be converted into water-closets as soon as the sewer is available.

There appears to be little overcrowding, and there are no one-room tenements in occupation.

**Inspector's Report.**—Mr. Knight, the Inspector of Nuisances, makes a very complete report of his work. According to this 25 complaints have been received, and 80 premises have been specially inspected. Forty orders were issued for the amendment of sanitary defects, 10 houses were repaired and cleansed, 12 privies were repaired and put in order, 5 privies were provided, and 3 accumulations of refuse were removed. Three wells, &c., were cleansed or repaired.

There are 2 registered lodging-houses in the district, and these are under the supervision of the Inspector.

## WALLASEY.

## Urban District.

Medical Officer of Health—DR. A. CRAIGMILE.

Population at Census, 1891—33229.

Estimated population in middle of 1895—39000.

Area in acres—3408.

Birth-rate per 1000 living—28·3.

Death-rate per 1000 living—15·4.

Death-rate from seven principal Zymotic diseases—1·4.

Deaths under one year to 1000 births—146.

This Urban District includes the three Townships of Poulton-cum-Seacombe, Liscard and Wallasey. The area of these and population at Census were as follows :—

	Area in Acres.	Population. at Census.
Poulton-cum-Seacombe...	830	14839
Liscard (including Egremont and New Brighton) ...	982	16323
Wallasey ...	1596	2067

The estimated population, birth-rate and death-rate of these three townships in 1895 were as follows :—

Poulton-cum-Sea- combe	Population.	Birth-rate.	Death-rate.
... 17400	... 32·5	... 18·1	
Liscard ... 19150	... 24·0	... 13·3	
Wallasey ... 2450	... 31·4	... 13·4	

In calculating the above death-rates the deaths in the Seacombe and Wallasey Cottage Hospitals, the Mill Lane Hospital, and the Convalescent Home, have been referred to the townships to which they belong.

The number of inhabited houses at the end of 1895 was as follows :—

Poulton-cum-Seacombe ...	...	...	...	3472
Liscard ...	...	...	...	4048
Wallasey ...	...	...	...	524
				8044

Allowing 5 persons per house, the population at the end of the year was thus 40220—in round numbers 40000—and as it was estimated at 38000 at the close of 1894, the population at the middle of 1895 may be taken at 39000. This is probably not an excessive estimate, considering that the number of persons per house at the Census, 1891, was 5·2.

The number of births registered in the whole district, in 1895, was 1104. The number of deaths registered in the whole district, in 1895, was 604. The birth-rate is 1·3 below the mean birth-rate of the six years 1889-94. The death-rate is 0·6 below the mean death-rate of the six years 1889-94. In

1895, as in many past years, a very much larger number of births was registered in Poulton-cum-Seacombe than in Liscard, though the population was less by about one-eleventh part. The number of deaths in the whole district was 158 in the first quarter, 137 in the second quarter, 154 in the third quarter, and 155 in the last quarter. The death-rates of the four quarters were therefore respectively 16.2, 14.0, 15.8 and 15.9. Thus the mortality of the first, third and fourth quarters differed but slightly, and the mortality of the second quarter was lowest.

The following meteorological results, obtained through the courtesy of Mr. Plummer from the Bidston Observatory, show the mean temperature, mean barometer, and the amount of rainfall in inches for every month of the year 1895. The mean barometer as given below has been reduced to 32° Fahrenheit and to sea level:—

1895.		Mean Temperature (degrees).	Mean Barometer (inches).	Rainfall (inches).
January	...	33.2	29.725	2.898
February	...	30.1	30.138	0.312
March	...	41.7	29.678	2.797
April	...	47.6	29.876	1.782
May	...	54.7	30.109	0.416
June	...	57.7	30.078	0.995
July	...	59.4	29.832	3.808
August	...	60.4	29.839	1.853
September	...	61.0	30.115	1.085
October	...	45.6	29.829	5.443
November	...	45.4	29.825	2.440
December	...	40.1	29.740	2.436

The Medical Officer of Health draws attention to the marked difference between the temperature and rainfall of 1895 and the temperature and rainfall of 1894. The sign + indicates an increase for 1895, and the sign — a decrease for 1895, as compared with the corresponding month of 1894.

	1895.	Mean Temp. in degrees.	Rainfall in inches.
January	...	— 5.9	... + 1.204
February	...	— 12.4	... — 2.865
March	...	— 3.8	... + 1.239
April	...	— 2.9	... + 0.186
May	...	+ 5.6	... — 2.059
June	...	0.0	... — 0.963

1895.		Mean Temp. in degrees.	Rainfall in inches.
July	...	— 1·5	... + 0·524
August	...	+ 2·4	... — 1·209
September	...	+ 6·9	... + 0·169
October	...	— 4·1	... + 1·455
November	...	— 1·9	... + 0·451
December	...	— 2·9	... + 0·221

This comparison shows that only in three months was the mean temperature higher in 1895 than 1894. The decrease in the mean temperature of the year 1895 was 1·7 degrees. During eight months of 1895 the rainfall was greater than in 1894, yet the whole rainfall of 1895 (26·265 inches) was considerably less than the rainfall of 1894 (27·912 inches).

The great cold in the first quarter accounts for the increased number of deaths from bronchitis, and the rise in temperature in August and September is to some extent an explanation of the extraordinary increase in the number of deaths from diarrhoea and enteritis, this latter being the same as diarrhoea. The mortality from pneumonia did not rise in the same way as the mortality from bronchitis during the cold weather.

The proportion of deaths of those under one year to each 1000 births, in 1895 (146), is higher than it has been in recent years, except in 1893 (150). Of the 162 deaths of infants under a year old recorded in 1895, there were 34 from atrophy and debility, 23 from enteritis, 19 from diarrhoea, 19 from bronchitis, 17 from premature birth and 12 from convulsions.

Eighteen and a half per cent. of those who died were persons 60 years old and upwards.

Only 6 out of the whole number of deaths were not certified by a registered medical practitioner or coroner—that is 0·99 per cent. Fifty-six inquests were held during the year, that is 9·2 of the deaths were certified by a coroner.

The principal zymotic diseases caused 57 deaths, viz.:—1 measles, 4 scarlatina, 4 diphtheria, 5 croup, 6 whooping-cough, 8 typhoid fever and 29 diarrhoea. The exact locality in which these deaths occurred is indicated on a map, a distinguishing mark being allotted to each disease.

**Cases of Infectious Disease Notified.**—The number of cases of infectious disease notified under the Infectious Disease Notification Act, in 1895, was 254, viz.:—5 small-pox, 130 scarlatina, 20 diphtheria, 5 membranous croup, 67 typhoid fever, 4 puerperal fever and 23 erysipelas.

**Small-pox.**—Four of the cases notified, occurred in Liscard proper and 1 in New Brighton. In every instance the person attacked had been vaccinated and the disease was modified accordingly. Two were very mild cases and three well-marked. They were clearly all infected from Liverpool. The inmates of the households were promptly re-vaccinated, but

in one house a second case occurred before the vaccination had time to give protection. There was no connection between the members of the different families affected. Full precautions in the way of isolation and disinfection were adopted and the disease did not spread to any other household. Although provision for isolation at home could be made in all these cases, their occurrence plainly shows that accommodation should be furnished for small-pox patients. In the event of an outbreak of small-pox, the cases could not be sufficiently isolated at Mill Lane Hospital.

**Measles.**—The only death from this disease was recorded in August, in Stanley Street, Seacombe.

**Scarlatina.**—As there were 130 cases and but 4 deaths, the mortality was about 3 per cent. of the notified cases. One death was in July, 1 in November and 2 deaths were in December. The first death was in New Brighton, the second in Liscard, the third in Seacombe, and the last in Liscard. The number of cases notified in the first quarter was 26, in the second 22, in the third 42, and in the fourth 50. Forty-seven of the whole number of cases were children under five years of age.

**Diphtheria and Croup.**—As 20 per cent. of the notified cases of diphtheria, and all the notified cases of croup, died ; it seems probable there may have been cases not reported. Cases of these diseases appeared from time to time throughout the year, and were not limited to any part of the district. The deaths recorded as diphtheria were 1 in February (Wallasey), 1 in August (Seacombe), 1 in October (New Brighton), and 1 in December (Seacombe). The deaths recorded as croup were 1 in January (Wallasey), 2 in March (Liscard and New Brighton), and 2 in August (Wallasey and Liscard). Five of the 20 diphtheria cases were children under five years of age, and 4 of the 5 croup cases were children under five years of age. In 5 out of the 25 cases there were distinct sanitary defects discovered on the premises where the disease appeared, but it seemed impossible to prove that the defects were the cause of the disease. A careful examination of the milk-supply showed that it could not be looked on as the cause in any case. There did not seem to be spread of infection from school attendance.

**Whooping-cough** was registered as the cause of 6 deaths. One occurred in the second quarter, 3 in the third quarter, and 2 in the last quarter. Four of the deaths were in Seacombe, 1 in Wallasey and 1 in Egremont.

**Diarrhœa.**—This disease, in common with measles and whooping-cough, is not required to be notified, so the number of cases is not known. As there were 29 deaths recorded from diarrhœa, the death-rate appears to be equal to 0.74 per 1000, however this does not represent the whole of the mortality due to autumnal infantile diarrhœa. Attention should be drawn

under this heading to the fatality ascribed to another disease—"enteritis." This is entered among the local diseases of the digestive organs, and accounts for 29 deaths. Of the 29 deaths ascribed to diarrhœa 19 were infants under one year of age, and of the 29 deaths ascribed to enteritis 23 were infants under one year of age. Of the deaths ascribed to diarrhœa 26 were in the four months—July to October, and of the deaths ascribed to enteritis 23 were in the four months—July to October. Thus the deaths recorded as from "enteritis" or "gastro-enteritis" are really deaths due to infantile diarrhœa, and as the distinction in name is due only to a somewhat new method of certifying such deaths, the Medical Officer of Health is of opinion that the number of deaths from diarrhœa in 1895 was 58 instead of 29, giving a death-rate of 1.48 instead of 0.74. To what cause is this very large number of deaths from diarrhœa and enteritis due? As a rule, manufacturing towns, where mothers among the working-classes go back to the factories as soon as they can leave their children, and the children are hand-fed and not well attended to, have a high mortality from these diseases. Low lying towns, also, with insufficient fall for drainage and with damp sub-soils, lose many infants by the same diseases. These conditions, however, are not present in Wallasey. Some help to the solution of the problem will be got by studying the localities which suffered most from the diseases. In the small area comprising Oakdale, Wheatland Lane, and the streets leading out of Wheatland Lane, 12 of the 29 deaths from diarrhœa occurred, and 13 of the 29 deaths from enteritis, *i.e.*, 25 out of 58. The large proportion of these deaths in this area is very striking, as many of the streets are not occupied by the poor and badly fed classes; and the Medical Officer of Health believes the reason is that the drainage is in a thoroughly bad condition.

In this respect there is a striking resemblance between the prevalence of typhoid fever and diarrhœa, *viz.*: both are apt to prevail where sewers and drains are choked and leaking, or have a bad fall with faulty construction. From the prevalence of these two diseases in the area just referred to, the Medical Officer of Health predicted that the sewers would be found in a bad condition, and made reports to his Committee more than once on the subject. During the latter part of 1895 and early in 1896, the drainage of Oakdale was examined. As a result many sewers and drains had to be entirely reconstructed—in some instances they were completely blocked and the sub-soil sodden with sewage, a condition highly favourable to the occurrence of a severe and fatal typhoid fever and diarrhœa. Wheatland Lane sewer and the sewers leading into it, will it is hoped be shortly taken in hand.

Reasoning from similar data the Medical Officer of Health considers that the drainage of Field Road, Eleanor Street, Catherine Street, Seymour Street and Place, Tollemache Street

and Egerton Street, with others in that neighbourhood will demand careful and speedy attention. He is confident that the mortality from diarrhoea will be largely reduced by an energetic policy for remedying the defective sewers of the district.

**Typhoid Fever.**—The remarks on this disease naturally follow what has been just stated. The localities in which the 67 cases of typhoid fever occurred, and the months in which the notifications were received are best shown in tabular form.

		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1895.	
Seacombe	...	...	1	2	1	3	16	1	2	6	2	2	3	0	39
Liscard.	Egremont	...	0	0	1	0	1	1	1	0	0	2	1	0	7
	Liscard Proper	...	1	1	1	0	0	0	1	1	5	4	0	0	14
	New Brighton	...	1	1	1	0	1	1	0	0	1	1	0	0	7
Wallasey	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0
Cases	...	...	3	4	4	3	18	3	4	7	8	9	4	0	67
Deaths	...	...	1	0	1	0	0	1	1	0	1	0	2	1	8

Thus the largest number of cases were reported in May and not one was reported in December. As regards locality, the largest number of cases were in Seacombe and not one was in Wallasey. Six of the cases were of children under 5 years of age. The 8 deaths are equal to a death-rate of 0.20, which is 0.3 above the typhoid fever death rate in the whole of England and Wales. Still a death rate of 0.20 is a very great improvement upon the average typhoid fever death-rate in Wallasey in the 8 years 1887-94, which was 0.43—more than double the corresponding death rates in the whole of England and Wales.

The remarkable decline of typhoid fever in the district in 1894 and again in 1895, is most encouraging, especially as the weather conditions were such as to favour an outburst of typhoid fever in the warm months. As a matter of fact in the month of May, 1895 (when the mean temperature was 5.6 degrees in excess of the mean temperature of the preceding May), 18 cases were reported, as against 5 in 1894.

Nine of the notified cases were in Oakdale and 11 in Wheatland Lane and the streets draining into it. There was also a group of 5 cases in the lower part of New Brighton (in Seymour Place, Grosvenor Road, Egerton Street, Waterloo Road and Richmond Street) where the drainage needs overhauling. Some of the sewers in these streets are known to be bad, and all want careful examination.

The chief defects found in houses where cases occurred, were in the drains of water-closets, allowing sewer-gas to escape, and in waste-pipes directly connected and untrapped, &c., but these defects are fewer year by year, and are not as serious in their nature as formerly.

Two patients who died of typhoid fever came into the district suffering from the disease, and a third case of the disease was probably imported. One not fatal case was considered to be due to eating oysters. No case was traced to either milk or water supply.

**Influenza** again prevailed in epidemic form, 2 deaths being recorded in February, 7 in March, 1 in April and 1 in May. One of the deaths was in the township of Liscard and 10 were in Seacombe. One of those who died was an infant, 6 were people 60 years old.

**Alcoholism.**—Intemperance was certified as the cause of two deaths and delirium tremens as the cause of one death.

**Precautions taken against Spread of Infection.**—

As has been usual, in all cases of infectious disease notified, notices were sent to the School Authorities if any member of the infected household attended school. Careful disinfection of infected premises and articles is carried out by the District Council's officers. As soon as the notification is received the Inspector visits the house and leaves a printed slip with directions. The milk supply is also carefully watched. The premises are examined for defects, the drains are specially flushed, and disinfectants poured down them. Where cases cannot be properly isolated at home they are removed to hospital.

**Isolation Hospital accommodation** is provided at Mill Lane, and was much used in 1895. In all 85 cases were admitted. The number admitted in 1894 was 99, and the number admitted in 1893 was 62. Particulars of the cases treated in 1895 are as follows:—

	Scarlatina.	Typhoid Fever.	Croup.	Diph- theria.	Erys- pelas.	Measles.
Poulton-cum- Seacombe	22	16 (2 deaths)	...	1	...	...
Egremont	3	3	...	1	...	...
Liscard proper	8 (1 death)	6	1 (1 death)	3	...	...
New Brighton	12 (1 death)	3	...	...	1	2
Wallasey	2	...	...	1	...	...
Total .....	47	28	1	6	1	2

There were thus 5 deaths, viz. : 2 from scarlatina, 2 from typhoid fever and 1 from croup. This is a small number of deaths, considering the serious nature of many of the cases, and speaks well for the skilled nursing and care the patients receive.

The benefit of isolation can hardly be estimated, but the records of notifications show that in many houses where the patient was not sent to Hospital several other cases occurred. No doubt typhoid fever and scarlatina were much limited in Oakdale and similar localities by prompt removal of patients to the Hospital.

There is still no separate pavilion for small-pox or typhus fever, and the Medical Officer of Health hopes this will soon be supplied, especially as a small building would meet all ordinary

requirements—say one with 2 beds for male patients, and 2 for female patients.

A new wing is in course of erection at the administrative block to provide additional accommodation for nurses and servants. This will give 3 new bedrooms. The bedroom accommodation has been often insufficient when extra nurses have been required.

**Systematic Inspection.**—The Inspector and Sub-Inspector were unable, during 1895, to make the necessary number of house-to-house inspections. With the increasing work demanded of the department, owing to new Acts of Parliament, &c., there is not time for the needed systematic inspection.

**An Extra Inspector Required.**—The need of an extra Inspector will be more readily realized now that new work must be undertaken in connection with the bye-laws for houses let in lodgings, the Factory and Workshop Acts, &c.

**Refuse Removal.**—The collection of night-soil has again, as in former years, been attended with great difficulties, although the Committee exerted itself to the utmost to make it efficient, and the new Inspector did his best in the same direction. So much trouble was occasioned that a Resolution was passed to the effect that the District Council will itself undertake the whole task of collection. This change will be of the utmost benefit to the District.

**The New Destructor** for the cremation of refuse, situated in Gorsey Lane, was opened in July, but the District Engineer and Surveyor reports that its successful working has been marred by the irregular way in which the Contractor delivered his loads, especially at night. The defective condition of Gorsey Lane has also proved a source of difficulty impeding cartage at night. The six cells are to be supplemented by six more, as the existing ones cannot cope with all the refuse of the District.

Another difficulty in connection with the work at the destructor arises from the fact that there is still a number of uncovered ashpits with the old-fashioned privies opening into them, the wet contents of which are difficult to consume. A resolution was passed to convert all such privies into water-closets and to roof over the ashpits, but the Medical Officer of Health was obliged to make a report to the Committee on this subject, pointing out that it was in his opinion unsafe to do this unless the sewer into which the drains would be carried was itself in a good working condition.

**Sewers of Deposit.**—A special case arose in St. Albans Road, on the west side of which are some very foul and offensive privies. These stand in urgent need of conversion, but on examining the sewer and drains leading to it, they were found

to have so little fall that in many parts they were half or three-quarters full of deposit. Draining water-closets with such a sewer should not be attempted.

This sewer opens into the Mill Lane sewer, which at this part falls into Liscard Road sewer, and the Mill Lane sewer itself has a very poor fall. With the large access of sewage which will come into it, from the number of new streets now being rapidly built up on the south side of Mill Lane, some remedy will have to be found, and if sufficient fall cannot be got towards Liscard Road, the question will arise whether this sewer should be taken down Mill Lane, by which an excellent fall could be obtained.

**Re-construction of Old Sewers.**—The Medical Officer of Health takes this opportunity of recording with pleasure the continued activity displayed in re-constructing old and defective sewers. The expense incurred in vigorously continuing this work, he regards as more necessary for the sanitary improvement of the district, than that entailed by any other improvement schemes.

**Drain-flushing.**—The systematic flushing of house-drains has been carried on as usual throughout the year. There is also special flushing of the drains of houses where infectious disease is notified.

**Bye-laws for Houses Let in Lodgings.**—In a Special Report presented in April, 1895, the Medical Officer of Health dealt at length with Insanitary Property in the District, and made some suggestions for coping with the difficulties encountered. Among these was a recommendation to the District Council to adopt bye-laws for houses let in lodgings or occupied by members of more than one family.

The condition of certain houses in Brighton Place, Seacombe, specially suggested this course on account of the filth, overcrowding, want of ventilation, absence of separation of the sexes, &c., &c. In practice, these conditions could not be efficiently dealt with under the Health Acts. Take as an instance overcrowding, which was known to exist: notices were served to abate this, but if they were complied with for the time, the same evil speedily recurred, and the Authority had no powers to enable the Inspector to make any *night* inspection to ascertain positively whether overcrowding existed.

The Medical Officer of Health is pleased to say that these bye-laws have recently been adopted by the Council, and will come into force as soon as they are confirmed by the Local Government Board. They will give power to regulate the number of persons occupying each room (a definite number of cubic feet being allowed for each occupant), to register such houses, to enforce cleansing, whitewashing and ventilation, and above all to inspect the houses at *all hours*.

The number of inmates for each room can be shown on a placard fixed up on the door or wall by the Inspector.

Some members of Council expressed a fear that these powers would give rise to undue interference with persons letting lodgings in such localities as New Brighton, but no arbitrary exercise of powers is intended, unless there is plain evidence of overcrowding, want of cleanliness, &c., and in cases of this description the powers ought to be put in force wherever the house may be situated.

The new powers will however be chiefly applied to such localities as Brighton Place, Havelock Street, Brewer's Buildings, Stafford Buildings, &c., and will not cause any annoyance where lodging-houses are kept in decent order.

**Factories and Workshops.**—In 1895, a new Factory and Workshop Act was passed, amending and extending previous Acts. Hitherto no register of factories or workshops has been kept by the Wallasey Authority, and no systematic inspections in this connection have been made. In 1896 it is proposed to open and keep a register of factories and workshops.

**Vaccination Returns.**—These refer to 1071 births registered during the year ending June 30th, 1895. The particulars are supplied by Mr. Stewart, Vaccination Officer.

Successfully vaccinated	...	...	...	960
Insusceptible	...	...	...	2
Died before vaccination age	...	...	...	86
Postponed by medical certificate	...	...	...	13
Removed and traced	...	...	...	4
Removed and not traced	...	...	...	5
In default	...	...	...	1
				—
Births registered	...	...	...	1071

This shows that only a percentage of 0.5 escaped vaccination. Even this small proportion is almost entirely due to removals from the district. While children born in Wallasey are thus carefully looked after, there is no guarantee that children coming into the district with their parents are protected from small-pox.

**Water-supply.**—Particulars of the amount of water pumped and its distribution are supplied by Mr. J. H. Crowther, the Gas and Water Engineer. The average quantity used per head per day, in 1895, was 40.28 gallons, divided as follows:—

			Gallons.
Watering streets and road-making	...	...	0.31
Supplied by meter...	...	...	4.99
Supplied to shipping	...	...	0.04
Flushing sewers by hose	...	...	0.69
Domestic and other purposes, including drinking-fountains, gardens, &c., by assessment		...	34.25

The district has now an abundant supply of wholesome water.

The Sanitary Inspector, Mr. H. C. Bascombe, furnishes information on matters coming under his supervision. In his opening paragraphs he refers to a Report which he presented in November, 1895, "On the Measures Proposed to be adopted to Improve the Sanitary Condition of the District." In this he proposes that builders should be required to use only sanitary appliances approved by the Authority, that all drains and sanitary fittings should be properly tested, that all offensive accumulations should be removed from the vicinity of dwelling houses, that the District Council should be the Authority charged with giving effect to the Sale of Food and Drugs Acts, that all infected rooms should be stripped and cleaned, and that he should be given increased powers for inspecting lodging-houses.

**Nuisance Abatement.**-- The number of notices issued for the abatement of nuisances was 808. The nuisances abated were the result of insufficient drains, defective drains, choked drains, broken water-fittings, no supply or insufficient supply, house drains directly connected, waste pipes directly connected, waste pipes untrapped or badly arranged, soil-pipes not ventilated or ill-ventilated, rain-pipes directly connected, defective rain-conductors or roofs, defective traps, offensive accumulations, defective ash-pits, privies and W.C.'s, defective cisterns, offensive ponds, yards lodging foul water, damp walls, dirty or overcrowded houses, animals so kept as to be a nuisance, &c. There was only one smoke nuisance. Among the good work accomplished was the conversion of 96 privies into water-closets. The number of letters written, referring to nuisances and other matters, was 772.

**Complaint of Nuisances.**-- There were 629 special complaints received. In 537 of these cases, notices were served. In 67 cases what was complained of did not warrant the serving of notices. In other cases the nuisances were due to tenants' neglect, and they were required to abate the nuisances.

**Drain Testing.**-- A considerable portion of the Inspector's time is taken up in testing house-drains and fittings, and according to his experience the value of such testing cannot be over-estimated. He makes use of the usual smoke-testing machine, or the so-called "rockets," or the water test, as occasion requires. During the year he thus tested the drains and sanitary fittings of 93 houses, with the result that in 80 houses defects were discovered.

**Smoke Nuisances.**-- Many complaints were received from persons residing in the immediate neighbourhood of large Works' chimneys, of annoyance caused by the emission of dense smoke. Notices were served on the Works' owners in respect of 7 chimneys, but except in one instance no steps appear to have been taken to prevent the nuisance recurring. At the French Steam Laundry, New Brighton, (the Works forming the

exception), patent combustion furnace bars were fitted to the boiler furnace, with the result that a considerably diminished quantity of smoke has since been emitted, and no recent complaints have been made.

The chimney which appears to be giving the most trouble at present is the one belonging to Messrs. Clare's Flour Mills, Liscard. It has been the cause of many complaints and notices have been served to abate the nuisance, but with little or no effect.

**Shore Nuisances.**—During March many complaints were received of an effluvium nuisance from the disused vessel, "Noah's Ark," on the beach, New Brighton. Years ago this ship was employed as a refreshment room, but the deck had been removed which allowed mud and foul water to collect in the hold, and the tide had scoured away the sand round it, making a hollow in which dead fish and other offensive rubbish lodged. It was obvious that the only way to abate the nuisance and prevent it from recurring was to remove the vessel. Notices to do this were served on the owner and not complied with, so the Authority took proceedings against him, and the case was heard at the Liscard Police Court. The Magistrates made an order for the abatement of the nuisance within two months, and ordered the defendant to pay £3 11 6. A little of the timber was removed, but practically nothing was done to abate the nuisance. The defendant was again summoned before the Magistrates on two different occasions, and fines imposed amounting to upwards of £8, for neglect to comply with the order of the Court. Eventually, the District Council, being of opinion that the defendant was practically unable, from want of means, to carry out the necessary work, themselves abated the nuisance. Another wreck deposited on the shore gave promise of similar nuisance being created, but prompt steps were taken to prevent it. This was the "Minnie Brown," wrecked on the West Hoyle Bank, which was removed therefrom and towed up the river to New Brighton. The owner was communicated with forthwith, and eventually the whole of the wreck was removed.

During the year the carcases of one horse, two bullocks, and six sheep were discovered washed up on the Wallasey and Liscard shores. In each case the carcase was secured and taken to the Old Potteries, Seacombe, where it was destroyed a few hours after being deposited by the tide.

**Sanitary Accommodation at Schools.**—Great improvements have been made in the sanitary arrangements at two of the Schools in Liscard—the Grammar School and the Congregational School. The accommodation at the Rock School, Liscard, where there is an automatically flushed trough, is to be improved and added to.

**Courts and Back Passages.**—Attention has been drawn in previous Reports to the condition of these throughout the district. As yet nothing further has been done with a view to having them systematically scavenged. Various accumulations of filth and rubbish are still constantly taking place in many of the back passages.

**Insanitary Property.**—The Inspector notes that in February the County Medical Officer of Health accompanied the Medical Officer of Health and himself over houses situated in Brighton Place, Brighton Street (Seacombe), Burnaby Street (Egremont), Field Cottages, Brewers' Buildings, and Stafford's Buildings (Liscard), and made several suggestions with regard to cleansing and repairing these properties. Notices were accordingly served on the owners. In respect of Brewers' Buildings, the negotiations with the owners to obtain the demolition of this block have so far not been attended with success.

**Overcrowding.**—Many exaggerated statements have been made as to overcrowding. Each case reported has been investigated and it was shown that little occurred. Where it does really exist is in houses sub-let in apartments. In such cases the Inspector will be assisted in repressing it by the powers conferred by the new bye-laws in respect of houses let in lodgings. This is a nuisance most difficult to abate. As there is no definition of what constitutes overcrowding—that is no statement of the number of cubic feet of air-space each occupant should be allowed—and no way of obtaining good evidence in such cases, the offence is hard to prove. Then there is an actual scarcity of houses at a low rental, so that the abatement of overcrowding would mean, in many cases, turning the occupants into the street.

**Disinfection.**—Infected houses or rooms have been disinfected thoroughly with sulphur fumes, and the steam disinfecter is in constant use for the disinfection of bedding and clothing. A van is employed for removing infected articles and another for returning the articles after disinfection. In all 1808 articles of clothing, &c., and 301 beds and mattresses were dealt with.

**The Foreign Animals Wharf.**—Owing to extensive additions made to the lairages and slaughter-houses at the Wallasey and Alfred Docks, the work of inspection has been considerably increased. The accommodation at the Foreign Animals Wharf, for lairing and slaughtering has indeed been nearly doubled, with the result that the time of the Sub-Inspector is almost entirely monopolized, to the neglect of other matters of equal if not greater importance.

The premises of the butchers in the town are also inspected, and the Inspector is acquainted with the source from which nearly every butcher in the district obtains his meat supply.

**Unsound Meat, &c.**—During the year 59,936 lbs. of meat (beef, mutton, veal and pork) and 19,619 lbs. of offal have been seized and destroyed as unfit for human food. By far the greater part of this was seized at the slaughter-houses in connection with the Foreign Animals Wharf. A small proportion was from shops situated in the district. No proceedings were taken, other than applications to Magistrates for orders to destroy the meat and offal seized. The stuff is destroyed at the manure works, Old Potteries, Seacombe.

**Dairies, Cow-sheds and Milk-shops.**—There are in the district 26 cow-keepers and 47 purveyors of milk, duly registered. This shows that there are 6 more purveyors of milk than were on the register at the end of 1894. In all cases where persons have applied to be registered, strict examination of premises proposed to be used has been made. One application was refused owing to the premises being unsuitable.

**Offensive Trades.**—In February the Inspector obtained evidence that an offensive trade (gut-scraping) had been established on premises in Victoria Road, New Brighton. Notices were immediately served on the occupier to cease carrying on the trade, with the desired effect.

In November an application was made to the Authority for permission to carry on the trade of a horse-slaughterer at Cinder Lane, Poulton. All that was required with reference to the drainage of the premises was done, and the license was granted.

Owing to the establishment of a Chemical Manure Manufactory at the Old Cement Works, Seacombe, a portion of the premises recently in use by Messrs. Mortimer & Co., at the Old Potteries, Fat Melting and Manure Works, have been annexed, interfering with the efficient working of the latter business. This matter will no doubt be considered when an application is made for a renewal of the license.

Complaints received of a nuisance from fumes, from persons residing in the neighbourhood of the Phospho-Guano Works, Seacombe, have not been so numerous as in former years. This may be due to the completion of a new main chimney early in the year.

**Canal Boats.**—During the year 44 boats were inspected. The condition of 9 boats was found to be in contravention of the Canal Boats Acts and regulations. In two cases the master failed to produce the certificate of registration, in six cases the boats were not properly lettered, and the cabin of one boat required painting. Nearly the whole of the boats visited presented a clean and tidy appearance.

**Caravans.**—All vans used as dwellings, which have entered the district during the year, have been inspected to ascertain their sanitary condition and the means used for the disposal of refuse. The vans, in all cases, were found to be cleanly kept.

## WILMSLOW.

### Urban District.

Medical Officer of Health—DR. T. A. SOMERVILLE.

Population at Census, 1891—6344.

Estimated population in middle of 1895—6,633.

Area in acres—5,103.

Birth-rate per 1000 living—27.5.

Death-rate per 1000 living—14.3.

Death-rate from seven principal Zymotic diseases—0.7.

Deaths under one year to 1000 births—76.

This Urban District is formed of part of Fulshaw, part of Bollin Fee, and part of Pownall Fee. The area and population of these three portions of the district appear to be as follows:—

	Area in Acres.	Population at Census.
Part of Fulshaw ...	...     ...     }	1230
Part of Bollin Fee     ...	...     ...     }	2860
Part of Pownall Fee   ...	2015	2254

During 1895 the number of births registered in the district was 183, and the number of deaths registered in the district (excluding two deaths not belonging thereto) was 95. Fourteen of those born were illegitimate—a large proportion. The birth-rate for 1895 is 0.3 below the mean birth-rate in 1892-94. The death-rate is 0.2 above the mean death rate in 1892-94. The proportion of infants who died was very small, and the proportion of old people very large—24 were upwards of 65 years of age, and 2 were upwards of 90 years.

Five deaths were ascribed to the chief zymotic diseases, viz. :—3 diphtheria, 1 croup and 1 diarrhoea. There were also 3 deaths from influenza, 7 from phthisis, 21 from bronchitis or pneumonia and 10 from heart disease.

**Infectious Diseases.**—Under the Infectious Disease Notification Act 11 cases were reported, viz. :—3 scarlatina, 5 diphtheria, 2 croup and 1 typhoid fever. As far as practicable precautions were taken in every case to prevent the spread of the disease. One of the cases of scarlatina was removed to the Isolation Hospital belonging to the Warehousemen and Clerks' Schools at Cheadle Hulme.

**Water-supply.**—There have been numerous complaints of the water supplied by the Stockport Water Company. A new well has been sunk. The water has often been discoloured and unusually hard. Until the condition of the water is much more satisfactory and the price considerably reduced, it will be difficult to persuade people who have a good well-supply to use the Company's water.

Water from the well at Dean Row, from which most of the inhabitants get their supply, has been again analysed. This water is reported as good, and the Medical Officer of Health does

not advise any further steps being taken at present toward laying the main in this district.

**Bakehouses and Slaughter-houses** have been inspected as usual, and were found to be in a satisfactory condition. The Medical Officer of Health is still of opinion that it would be an advantage to have a public slaughter-house outside the town.

**Lodging-houses** have also been inspected and found to be in good order.

**Houses unfit for Habitation.**—During the year 2 houses were condemned as unfit for human habitation, and closed accordingly.

**Drainage Schemes.**—The Southern Drainage Scheme continues to work well. The sewers in Chapel Lane and Oak Lane are finished, and progress is being made with the Northern Drainage Scheme.

**Isolation Hospital needed.**—The district is still without accommodation for the isolation of infectious patients, but the Medical Officer trusts that in a short time arrangements will be made to rectify this defect.

## WINSFORD.

### Urban District.

Medical Officer of Health—After September 12th, the  
COUNTY MEDICAL OFFICER.

Population at Census, 1891—10440.

Estimated population in middle of 1895—11294.

Area in acres—5780.

Birth-rate per 1000 living—36.1.

Death-rate per 1000 living—19.3.

Death-rate from seven principal Zymotic diseases—2.6.

Deaths under one year to 1000 births—166.

This Urban District consists of the parishes of Over and Wharton. The area and population at the date of the Census are given as follows:—

	Area in Acres.	Population at Census.
Over ... ... ... ...	4527 ...	6835
Wharton (including Gravel Lane)	1253 ...	3605

The local population seems to have been under-estimated for 1894. The estimate for 1895, given above, it is believed is not excessive. It represents the population enumerated early in April, 1891, with the addition thereto of the natural increase (excess of births over deaths) to June 30th, 1895.

In 1895, the number of births registered was 408, and the number of deaths registered (including 4 occurring outside the district among persons belonging thereto) was 219. The mean

birth-rate during the three years 1892-95 was 36.5. The mean death-rate during the same three years was 16.8. Thus in 1895, the birth-rate was 0.4 below the mean of recent years, and the death-rate was 2.5 above the mean of recent years.

The number of births registered in the first quarter was 92, in the second 98, in the third 108, and in the fourth 110. The number of deaths registered in the first quarter was 44, in the second 54, in the third 43, and in the fourth 78. The death-rate was therefore exceptionally high in the last quarter; and this was due to the increased mortality from measles, bronchitis and other diseases among children.

**Infant Mortality.**—Sixty-eight of the deaths recorded were of infants under one year old, viz. : 24 bronchitis or pneumonia, 11 diarrhoea, 11 convulsions, 7 tuberculous diseases, 7 premature birth, 4 inflammation of stomach and intestines, 2 debility, 1 measles and 1 found dead in bed. Seventeen were registered in the first quarter of the year, 9 in the second, 19 in the third, and 23 in the fourth. Forty-two of the 68 infants were under 6 months old at the time of death.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 47, viz. : 31 scarlatina, 3 typhoid fever, 4 puerperal fever, and 9 erysipelas. Thirty-one of these were notified during the last quarter, and all were treated at home. The deaths from notifiable diseases were 7, viz. : 3 scarlatina and 4 puerperal fever.

**Scarlatina.**—The first case of this disease was reported on April 24th, then 2 cases occurred in July, 3 in August and 1 case in September. The number of new cases reported during the last three months of the year was 24. Several cases occurred in the same streets, for instance 8 cases in High Street, 4 in Wharton Road, 4 in Dean Street, 3 in Station Road, and 3 in Swanlow Lane. In one instance 4 cases occurred in the same house. Two of those who died from scarlatina were under two years of age, one was just over 3 years.

**Typhoid Fever.**—The three cases of this disease were in different parts of the district and do not seem to have been in any way connected. They were notified respectively in April, September and November, and all recovered.

**Puerperal Fever** was certified as the cause of death in 5 cases, and only 4 were notified. The cases occurred respectively in February, April, November (2) and December, and in different parts of the district. Three of those who died were 22 years old at the time of death, one was 19 years old, and one 26.

**Erysipelas.**—Nine cases of erysipelas were notified, but none proved fatal. Five occurred in March, April and May, and of these 3 were in Station Road. Four were in October, November and December.

**Measles** was prevalent during the last two months of the year. One death was certified on November 20th and 8 deaths during December. Of those who died 6 were under 2 years, and 3 were between 2 years and 5 years at the time of death.

**Diarrhoea** was registered as the cause of death in 17 cases. Twelve of these deaths occurred between July and October. Sixteen of those who died were under 5 years old at the time of death. Thus diarrhoea among infants, which is associated with the late summer and autumn, was exceptionally fatal locally in 1895.

**Influenza** was prevalent to some extent in the spring and winter. Three deaths were ascribed to it, 1 in April, 1 in October and 1 in November. The ages of those who died were respectively 37, 35, and 4 years.

**Bronchitis and Pneumonia** were registered as the causes of death in 52 cases. This is equal to a death-rate of 4.6 per 1000 living, which is decidedly high. These diseases were specially fatal during the last quarter. Twenty-nine out of the 52 who died were children under 5 years old.

**Hydrophobia.**—A case of this fatal disease occurring in any district calls for remark. One occurred at Wharton in the spring. A boy, 7 years old (son of a night-watchman), was bitten by a dog on April 20th, and died in convulsions, due to hydrophobia, on May 15th. The death formed the subject of a Coroner's Inquest.

**Deaths from Injuries**, 8 in number, all appear to have been accidental. Three were due to drowning, 2 to severe burns, one was due to a fall down stairs, one to a blow on the head from a block. In one case the deceased was run over by a cart.

**Isolation Hospital needed.**—The only provision made for the isolation and treatment of infectious patients is the wooden building, measuring about 22 feet by 15 feet, which was erected in 1893. This has not been made use of, except in April, 1893, because it was intended solely for small-pox cases, and not a single case has since been imported. Doubtless it may still serve from time to time for the isolation of an occasional case of small-pox, and in this way be of considerable use to the District. However, the means of isolating cases of infectious diseases, other than small-pox, should be provided, and the best and most economical way of doing this would be for Winsford to combine with Northwich and Middlewich Urban Districts and Northwich Rural District, and form a joint "Hospital District."

**Disinfecting Apparatus needed.**—After cases of infectious disease are convalescent, infected bedding and similar articles (which cannot be boiled), should be disinfected by

steam. Up to the present this District has obtained no apparatus for the purpose, and one is certainly required.

**Systematic Inspection.**—The Inspector, Mr. Ralph Oakes, reports that the whole District, containing 2138 dwelling-houses and 45 "lock-up" shops, is systematically inspected. A large number of nuisances are thus discovered and their abatement obtained in an informal way. All new houses are also inspected before occupation.

**Refuse Removal.**—As only 80 houses are furnished with water-closets, there is a considerable quantity of excrement to be removed. This stuff is taken away by a contractor in the night time, each receptacle being emptied 3 times yearly. It is used for manure after being mixed with farm refuse and lime. The ashes and house-refuse are kept separate, and also removed by a contractor.

**Common Lodging-houses.**—There are only 4 common lodging-houses. These are inspected monthly, and reported to be kept very clean.

**Water-supply and Public Baths.**—The water supplied to the District is abundant and of good quality. The Verdin Baths, where excellent baths can be obtained at charges varying from one penny to eighteen pence, were well used during 1895. The number of plunge baths paid for was 7821 and the number of private baths was 1035. The plunge bath is open between 7 a.m. and 8 p.m. daily, from April 1st to October 31st. Private baths (fresh water and brine) are obtainable throughout the year. The premises are kept very clean and in order.

**Dairies, &c.**—There are 9 registered dairies, all of which have been regularly inspected. The Authority have made regulations, and the Inspector sees that the requirements are complied with.

**Slaughter-houses.**—There are 15 registered slaughter-houses, and these are visited by the Inspector every week.

**Canal Boats.**—Comparatively few boats now come to Winsford, but these are of a superior class. They are registered and inspected as often as opportunity serves. The number inspected in 1895, was 21.

## YEARDSLEY-CUM-WHALEY.

### Urban District.

Medical Officer of Health—DR. H. ALLAN.

Population at Census, 1891—1235.

Estimated population in middle of 1895—1235.

Area in acres—1323.

Birth-rate per 1000 living—34.0.

Death-rate per 1000 living—17.0.

Death-rate from seven principal Zymotic diseases—1·6.

Deaths under one year to 1000 births—166.

In this Urban District, which includes Bridge Mont and Stoneheads, the births registered numbered 42, and the deaths registered (excluding two occurring in the district, but not belonging thereto) numbered 21. The birth-rate was 4·4 higher than the mean birth-rate in 1892-94, and the death-rate was 5·5 higher than the mean death-rate in 1892-94. Of the deaths 1 was due to measles, 1 to diarrhoea, 1 to phthisis, 3 were due to bronchitis or pneumonia and 3 to heart disease.

Seven of those who died were infants under 1 year, and 5 were old people 65 years old and upwards. The high infant mortality is not due, the Medical Officer of Health believes, to insanitary conditions in the district, but probably to low vitality at birth or injudicious feeding and nursing.

**Measles.**—The district appears to have been free from any disease of an infectious character, except that in November and December there was an outbreak of measles. Many children suffered, but only one died, and in this case broncho-pneumonia followed the attack.

**Isolation Hospital Accommodation needed.**—Some provision should be made for the isolation of cases of dangerous infectious disease. The Medical Officer of Health is aware that there is some arrangement with the Authorities at Hyde to receive cases provided there is room, but Hyde is upwards of 13 miles distant. He understands that the Chapel-en-le-Frith and Hayfield Rural Districts and the Fairfield Urban District, have under consideration the erection of an Isolation Hospital in the township of Chinley, on a site not yet agreed upon. Inasmuch as this will be within about 3 miles of Yeardsley-cum-Whaley, it is suggested it might be advisable to negotiate with the Councils of these three districts so that they might receive suitable cases sent from this district.

**Water-supply.**—In previous Annual Reports reference has been made to the unsatisfactory supply of water. In 1895, owing to the enterprise of Col. Cotton Jodrell, M.P., the supply was much augmented. He has made a reservoir at Stoneheads, almost capable of supplying the district in its present state. The water has been analysed and found remarkably pure, and in every way adapted for domestic purposes. The effect of the increased supply is already felt, and a number of houses are being erected where the supply of water is available.

**Proposed Scheme for Sewering part of District.**—In 1895 the District Council agreed with two neighbouring Authorities to obtain a Report upon a joint scheme for sewerage such parts of the districts as could be most conveniently dealt with at one outfall. The Medical Officer of Health trusts that no time will be lost in obtaining this Report, and that if approved of, the scheme will be carried out promptly.

**Nuisances.**—Systematic inspections have been made of the district, sanitary defects discovered have been remedied and nuisances abated. Old house-drains have been taken up and replaced by stoneware pipe drains, waste-pipes have been disconnected, rain-conductors renewed, and full ash-pits attended to.

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## BUCKLOW.

### Rural District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1891—20368.

Estimated population in middle of 1895—21142.

Area in acres—58925.

Birth-rate per 1000 living—23·4.

Death-rate per 1000 living—14·9.

Death-rate from seven principal Zymotic diseases—0·8.

Deaths under one year to 1000 births—133.

The Medical Officer of Health points out that his tenure of office dates only from October 23rd. The Report is however for the whole year. In dealing with the earlier portion of the year he has received invaluable assistance from the Inspector, Mr. Mc.Kenzie, whose services he acknowledges.

During 1895, the Rural District was reduced by the formation of the two new Urban Districts of Ashton-upon-Mersey and Knutsford, as follows:—

			Area in Acres.		Population at Census.
Rural District	...	...	62307	...	29245
Deduct:					
	Ashton-upon-Mersey		1622	...	4234
	Knutsford	...	1760	...	4643
			—	—	—
			58925		20368

The number of births registered in the district (thus reduced) in 1895 was 496. The number of deaths registered in the district (thus reduced) in 1895 was 330. Three deaths occurring outside the district belonged thereto, and 17 deaths occurring within the district were among persons not belonging thereto. The deaths belonging to the district were therefore 316.

For registration purposes, the district has been divided into four sub-districts. These are as follows:—

- 1.—Altrincham, having an area of 13143 acres, and an estimated population of 9461. It includes Baguley, Timperley, Hale, Ashley and Dunham Massey.
- 2.—Lymm, having an area of 14497 acres, and an estimated population of 3452. It includes Carrington, Partington, Bollington, Warburton, High Leigh, Agden, Mollington, and Ashton-by-Budworth.

- 3.—Knutsford, having an area of 20810 acres, and an estimated population of 3661. It includes Tabley (Superior and Inferior), Mere, Rotherne, Tatton, Marthall, Peover (Superior and Inferior), Ollerton, Toft, Bexton, Plumley and Pickmere.
- 4.—Wilmslow, having an area of 10475 acres, and an estimated population of 4568. It includes Styall, Mobberley, Northenden and Northern Etchells.

The birth-rates of these 4 sub districts were respectively 24.3, 22.0, 23.5 and 22.7. The death-rates of these 4 sub-districts were respectively 14.5, 10.7, 14.2 and 21.0.

The number of deaths from the principal zymotic diseases in the district was 17, viz.:—1 small-pox, 2 scarlatina, 4 diphtheria, 1 membranous croup, 4 typhoid fever, 3 whooping-cough and 2 diarrhoea. There were also 3 deaths from puerperal fever and 1 from erysipelas.

**Cases of Infectious Diseases Notified.**—The number of cases of infectious disease notified was 79, viz, :—2 small-pox, 39 scarlatina, 17 diphtheria, 2 membranous croup, 11 typhoid fever, 3 puerperal fever and 5 erysipelas.

**Small-pox.**—The only cases of this disease occurred on May 29th at Oldfield, Dunham Massey. A woman and her 5-days-old baby were the sufferers. The cases were promptly visited and placed in charge of a trained nurse. The infant died when a fortnight old. The cost of dealing with the outbreak was £28. There was no evidence that this woman had been vaccinated.

**Scarlatina** was present in the district to some extent during the whole of 1895. Cases occurred at Rotherne in January, of which one was fatal. The premises were isolated and in good sanitary condition. It is believed the first case was infected away from home. A fatal case also occurred at Timperley, which had been notified in 1894. There were in all 20 cases in the first quarter, 3 in the second, 8 in the third and 8 in the fourth. The type of disease appears to have been mild.

**Diphtheria.**—One death occurred in January (notified in 1894). There was no other case till May, and there were 3 in June. At Hale Barns (where a fatal case occurred) there was danger of a serious outbreak, owing to neglect of isolation and visiting affected families. Nuisances were noted on inspecting premises, which have since been abated. A case in July was followed by 8 cases in August, of which one was fatal (at Carrington). The other cases were at Hale, Bollington and Baguley. At Bollington School it was found that the scholars were supplied with a pailful of drinking-water daily from a neighbouring well; the water of which on analysis was found unfit for drinking. In the Baguley cases, the disease was contracted away from home, and the Hale cases occurred in a house

previously infected. A case in September, 1 in October, and 2 in December (1 fatal at Timperley) complete the list.

**Membranous Croup.**—There were 2 cases notified at Hale, 1 being in May, and the other in June. The latter proved fatal.

**Typhoid Fever.**—In February, a fatal case occurred at Wellfield Lane, Timperley. The patient, a young man 19 years old, in business at Manchester, had contracted the disease away from home. In March there was a case in a block of cottages opposite St. John's Schools, Baguley. Owing to the insanitary condition of the premises and subsequent cases of typhoid fever, the houses were closed by the owner and are to be demolished. In a case at Peover Superior the disease was found to have been contracted by the patient while cleansing foul closets and drains not within the district. In April there was another case at Baguley, and in June a case at Hale and 2 cases at Baguley. In August there was a case at Hale (contracted in North Wales), and a fatal case at Timperley—the patient had been carting offensive manure. In the end of September there were 2 fatal cases, one at Hale and one at Dunham Massey. Both patients were adults newly returned from holidays at the seaside, where the disease had been contracted.

**Puerperal Fever.**—There was 1 case in January, 1 in May, and 1 in September—all fatal. The first case was in Davenport Lane, Dunham Massey, and the second was in the same neighbourhood, attended by the same midwife. She was officially directed to abstain from further attendances for two months. The third case occurred at Paddock Hill, Mobberley. Here also the midwife was similarly warned not to attend further cases.

**Measles** is not a notifiable disease, so the number of cases cannot be ascertained. However, it is known that the disease was epidemic at Styal in November. No death occurred.

**Whooping-cough** is also not notifiable. Two deaths were reported from the disease in March, both those who died being under one year old, and one death was reported in July of a child 18 months old.

**Diarrhoea** was the cause of 2 deaths at Northenden. Those who died were under one year old.

**Closing of Schools.**—The School at Mere was closed in February in consequence of scarlatina in the Master's house, and afterwards disinfected and cleansed. Warburton School was closed in November owing to fear of an epidemic of scarlatina which was fortunately averted. The Styal School was closed in November on account of the prevalence of measles.

**Prosecution for not notifying.**—In connection with the outbreak at Warburton, a prosecution was instituted at the

Lymin Petty Sessions, against a village shopkeeper for having two cases of scarlatina in his house, in the peeling stage, without sending notice to the Medical Officer of Health. No Medical Practitioner had been called in. The defendant pleaded ignorance of the law. A conviction was obtained, and a fine imposed. Subsequently placards were posted and handbills were distributed, drawing attention to the responsibility resting on the householder to give information, quite independently of the notification by the Medical Practitioner in attendance. The result of this action has yet to be observed.

**Action taken on receipt of Notification.**—All cases, as notified, are promptly visited by the Inspector, and most of them by the Medical Officer of Health also. Instructions are given to isolate the patient as far as practicable, leaflets setting forth the outlines of hygienic treatment are left with those in charge, disinfectants are supplied gratuitously, and the sick-room and infected clothing are eventually disinfected with sulphur. Meanwhile the premises are examined, and any defects or nuisances discovered are made the subject of report to the District Council, and dealt with in due course. If there is any suspicion attaching to the water-supply a sample is analysed. When the patients are school-pupils notice is sent to the school to exclude all children from the infected house.

**Phthisis** only accounted for 14 deaths, exclusive of 8 deaths (of strangers) from phthisis in the Consumption Hospital, Dunham Massey.

**Influenza** is ascribed as the cause of 15 deaths. Fourteen of these were in the first half of the year, one was in December.

**Scavenging Contracts** are only in force in the townships of Hale and Dunham. Both townships are increasing in population, and it must therefore be expected that the work required and the cost will increase also. The township of Timperley and a portion at least of Northenden require systematic scavenging by contract.

**Isolation Hospital Accommodation required.**—The District Council have a marquee and land on which to erect it at Mobberley. The site will probably not be available after next August in consequence of its impending purchase by other Authorities as a hospital site. The Council must obtain another site, or might as well sell the marquee. The marquee, if a site were obtained for it simply forms a ward, and would be useless without provision of accommodation for nurses, arrangements for cooking, &c. The Medical Officer of Health is bound to put plainly on record, that should any emergency arise the district is not adequately prepared to deal with it. The small-pox case, already referred to, was a lying-in woman, whom it was impossible to move, otherwise the marquee would undoubtedly have been brought into use, and its deficiencies would have

forced themselves upon the attention of the Council. The needed accommodation ought to be furnished during the present period of repose. It will probably be found both expensive and unsatisfactory if the work has to be done hurriedly, under pressure of necessity. No progress is being made as regards the Small-pox Hospital for Manchester on Carrington Moss, and in any case this hospital would not be available for other diseases.

**Water-supply.**—Watchful care has been exercised over the streams within (and also some without) this Council's area. Frequent inspections have been made, especially of the Pedley and Marthall Brooks, which supply Knutsford with drinking water. Many sources of pollution noted on the first thorough inspection in 1893, are now found to be greatly improved.

The Manchester Corporation is seeking powers from Parliament to supply Carrington and Partington with water from their mains on the Lancashire side of the Ship Canal. This will be a great boon (when accomplished) to the inhabitants of those two townships.

In some parts of the district, notably in High Legh and in Pickmere, it is difficult to find a good water supply. There is no general public supply. Some few townships get the advantage of proximity to public mains, but most are dependent upon wells and pumps.

Thirty samples of suspected waters have been analysed by the County Analyst, of which 16 were passed, 9 condemned, and 5 ordered to be filtered before use. Four samples analysed by the Medical Officer of Health were all condemned.

The Surveyor and Inspector (Mr. McKenzie) furnishes information as to matters coming under his supervision. The whole district has been regularly and systematically inspected throughout the year.

**New Sewers and Sewage Schemes.**—The new sewers at Northenden were certified complete and began to work in April. New tanks have been built and completed at the Timperley outfall, at Dark Lane, Sinderland. Plans of a new outfall sewer, and of land for the necessary outfall works, for Ashley Heath, Hale, are approaching completion. This work is rendered compulsory by the rapidity with which detached villas of a superior class have been built in what has evidently become a favourite residential neighbourhood.

**Sewage Outfalls.**—There are now four Sewage Works for which the Council is responsible, viz.:—Hale, Dunham, Timperley, and Northenden; the other two having been handed over to the two new Urban District Councils. The Inspector of the Mersey and Irwell Joint Committee has kept a close watch upon them. On the whole, the results have been fairly satisfactory, except in the case of Hale. Careful search is now being made there for the cause, and various remedial measures are under consideration or in course of execution.

**New Houses.**—The number of plans for new buildings reported upon and passed during the year was 207. These were mainly for buildings in Hale, Dunham, Northenden, and Timperley. Water certificates were granted (prior to occupation) for 13 new houses, and were withheld for 8 new houses, where the supply was not satisfactory.

**New Bye-laws**—Urban powers have been obtained to control the question of “building line” in Urban townships. A new and revised set of Bye-Laws for the Council is much needed. A Committee has the matter in hand.

**Hackney Carriages.**—Urban powers have been obtained to control carriages and drivers in the townships of Hale, Dunham, and Timperley. 23 carriage licenses and 22 drivers' licenses have already been issued. A code of bye-laws and list of fares have been drafted and are in the hands of a Special Committee, prior to being sent up to the Local Government Board for approval.

**Overcrowding.**—Six cases have been reported to the Council. In each case the necessary steps have been taken to secure abatement.

There are no common lodging-houses in the district.

**Nuisance Abatement.**—During the year 98 complaints as to nuisances were received, and steps taken to remedy the same. In all 399 nuisances were reported upon, of which 355 were abated. The remaining 44 are in course of abatement. Seven houses were reported as dilapidated and unfit for habitation.

**Slaughter-houses.**—There are only 2 licensed slaughter houses in the District. They have been regularly inspected, and are kept clean.

**Dairies and Cowsheds.**—Regulations have recently been adopted to control these places. If strictly enforced nothing less than entire re-construction will avail, in many instances, to put them on a sound sanitary footing.

**Canal Boats.**—120 registered canal boats have been inspected in 61 inspections. 29 were engaged in the manure traffic at Carrington and Timperley. 4 unregistered boats were also at the same work. Many of the boats registered are not used for sleeping in. They were registered for 456 adults, and actually carried 180 men, 49 women, and 9 children. The children were all under school age. Decided improvements are noted from time to time as a result of inspection and advice.

## CHESTER.

## Rural District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—10080.

Estimated population in middle of 1895—9418.

Area in acres—35377.

Birth-rate per 1000 living—26·0.

Death-rate per 1000 living—11·9.

Death-rate from seven principal Zymotic diseases—0·8.

Deaths under one year to 1000 births—106.

This Rural District has for registration purposes been divided into sub-districts, as follows :—

1. Chester Castle, having an area of 10960 acres, and an estimated population of 3671. It includes Christleton, Littleton, Great Boughton, Chester Castle, Marlston-with-Lache, Eccleston, Eaton, Poulton, Pulford, Dodleston, Lower Kinnerton and Claverton.
2. Chester Cathedral, having an area of 24417 acres, and an estimated population of 5747. It includes Blacon-with-Crabhall, Bache, Newton-by-Chester, Wervin, Croughton, Moston, Upton, Lea, Little Mollington, Great Mollington, Backford, Chorlton-by-Backford, Caughall, Hoole (part of), Mickle Trafford, Bridge Trafford, Pickton, Thornton-le-Moors, Wimbolds Trafford, Dunham-on-the-Hill, Hapsford, Elton, Ince, Stanlow, Great Stanney, Little Stanney, Stoke, Capenhurst, Shotwick, Woodbank, Great Saughall, Little Saughall and Shotwick Park.

The population as above is exclusive of 695 enumerated at the Census in the County Lunatic Asylum, situated in the Parish of Upton, and 49 enumerated in the Tarvin Union Workhouse situated in Great Boughton. It is also exclusive of 1137 persons enumerated at Elton, Ince, Stanlow, and Great Stanney, who at the time of the Census were engaged in the construction of the Manchester Ship Canal.

In 1895, the births registered in the district numbered 245, and the deaths (including 9 deaths occurring outside the district but belonging thereto, and excluding 72 deaths in the County Lunatic Asylum and 2 in the Tarvin Union Workhouse) numbered 112. The birth-rate is 2·1 above the mean birth-rate in 1892-94; and the death-rate is 2·3 below the mean death-rate in 1892-94.

There were 8 deaths from the principal zymotic diseases, viz. : 2 diphtheria, 2 whooping-cough and 4 diarrhoea. There were also 6 deaths from influenza, 9 from phthisis, 16 from bronchitis or pneumonia, 6 from heart disease and 4 from injuries.

**Infectious Diseases Notified.**—Under the Infectious Disease Notification Act there were reported 41 cases of scarlatina, 5 cases of diphtheria, 5 cases of typhoid fever and 7 cases of erysipelas. Of these 8 cases of scarlatina and two cases of diphtheria were removed to the Fever Hospital at the Chester Infirmary. The Medical Officer of Health acknowledges the courtesy of Medical Practitioners in responding to the supplementary questions on the notification forms and in doing all they can to prevent the spread of infection.

The cases of infectious disease occurred at intervals throughout the year, and were mostly scattered in different parts showing no great tendency to spread. The houses where the cases occurred were visited, disinfectants were supplied and measures taken to prevent the attendance at school of children from infected houses, and remove any sanitary defects discovered on premises. In cases where the medical attendant advised removal to Hospital this was effected under the direction of Mr. Owen, the Inspector.

The Medical Officer of Health has visited the district frequently, and besides investigating cases of infectious disease has made general and special inspections.

**Water-supply.**—Part of the district is supplied from the Chester Water Works, and part from the Wrexham Water Works, while other parts have good well-water. Elsewhere the water is unsuitable or deficient in quantity, and efforts are being made to get the water mains extended to these parts, but the expense is a serious obstacle.

During the year 7 samples of water were submitted to the Medical Officer of Health for analysis. Two were found to be highly contaminated with surface impurities and 2 to be contaminated to a less extent.

The public pumps at Ince and Dunham have been repaired, and 4 cottages have been provided with 2 soft-water tanks at Backford.

**Sewage Treatment.**—The arrangements for the purification of sewage at Eaton have been commented on favourably by Dr. Bruce Lowe, Medical Inspector of the Local Government Board. Similar arrangements have been made at Eccleston.

At the laundry at Eaton an interesting process has been adopted for washing the smoke from the boiler furnaces, which is effective, but too costly for general use.

**Refuse Removal.**—The greater part of the district being of a rural character, little difficulty has been found as regards the emptying of privies and ash-pits. A neighbouring farmer is generally willing to undertake the task. However in parts of Newton and Boughton Heath (being now much built upon) different arrangements are required; as nuisances are frequently occasioned by persons who undertake the emptying,

without convenience for using the refuse, and simply deposit it on the first bit of vacant land at hand.

**Inspector's Report**.—Mr. Owen, the Inspector, continues to perform his duties with energy and ability, and progress is being made in the removal of conditions injurious to health. He makes a very complete report of work done during the year. Twenty complaints were received, and 187 houses or premises were specially inspected. Thirty-five houses were disinfected after infectious disease. Bedding was destroyed and compensation paid in 2 cases. Thirty-four orders were issued for the amendment of sanitary defects, in 50 houses the drains were repaired or cleansed, and the removal of 10 accumulations of refuse was obtained. Offensive ditches were cleansed at Saughall, Christleton and Mickle Trafford.

**Dairies, &c.**—Ninety-two dairy farms have been inspected, and action taken in respect to defects when required. Generally they were found well kept.

## CONGLETON.

### Rural District.

Medical Officer of Health—after September 12th, the  
COUNTY MEDICAL OFFICER.

Population at Census, 1891—12,505.

Estimated population in middle of 1895—13,000.

Area in acres—40,155.

Birth-rate per 1000 living—30.5.

Death-rate per 1000 living—16.0.

Death-rate from seven principal Zymotic diseases—1.0.

Deaths under one year to 1000 births—126.

In 1895, the number of births registered in the district was 397, and the number of deaths registered in the district (excluding 35 of the deaths, which took place at the Workhouse, of persons belonging to the Borough of Congleton and the Urban Districts of Sandbach, Buglawton and Biddulph) was 209.

The whole district for registration purposes has been divided into 3 sub-districts. These are as follows:—

- 1.—Church Hulme, having an area of 14912 acres, and an estimated population of 3000. It includes Goostrey cum-Barnshaw, Blackden, Twemlow, Cranage, Leese, Cotton, Church Hulme, Swettenham, Kermincham, Brereton-cum-Smethwick, and Davenport.
- 2.—Congleton, having an area of 7886 acres, and an estimated population of 1131. It includes Somerford, Somerford Booths, Hulme Walfield, Radnor, Newbold Astbury, and Moreton-cum-Alcumlow.

3.—Sandbach, having an area of 17357 acres, and an estimated population of 8869. It includes Smallwood, Odd Rode, Church Lawton, Hassall, Betchton, Wheelock, Arclid, Bradwall, Tetton, Moston, and Elton.

The birth-rates of these 3 sub-districts were respectively 29.0, 28.2, and 31.3. The death-rates of these 3 sub-districts were respectively 15.6, 19.4, and 15.7.

The birth-rate of the whole district was 0.2 above the mean birth-rate of the three years 1892-94. The death-rate of the whole district was 0.7 below the mean death-rate of the same three years.

The number of births registered in the first quarter was 98, in the second 105, in the third 99, and in the fourth 95. The number of deaths registered in the first quarter was 65, in the second 65, in the third 35, and in the fourth 44. The death-rate was thus remarkably low during the third quarter.

**Infant Mortality.** Fifty of the deaths recorded were of infants under one year old, viz.:—16 bronchitis or pneumonia, 11 convulsions, 10 atrophy or debility, 3 premature birth, 2 inanition, 2 whooping-cough, 2 diarrhoea, 1 inflammation of the stomach, 1 syphilis, 1 accidentally caused by suffocation, and 1 feloniously caused by a blow. Seventeen were registered in the first quarter, 16 in the second, 7 in the third, and 10 in the fourth. Thirty-nine out of the fifty infants were under six months old at the time of death.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 48, viz.: 27 scarlatina, 1 diphtheria, 3 croup, 3 typhoid fever, 6 continued fever, and 8 erysipelas. Of the whole number 6 were notified during the first quarter, 9 during the second, 21 during the third, and 12 during the fourth. The number of deaths from notifiable diseases, was 6, viz.: 2 scarlatina and 4 croup.

**Scarlatina.**—There were but 5 cases reported during the first half of the year, 3 being in the neighbourhood of Odd Rode. In July there was a case at Smethwick (a domestic servant who was removed to the Workhouse), 2 cases at Hassall, and 3 cases in one family at Holmes Chapel. In September there was a case at Leese, and 9 cases at Summerford Booths. In the last quarter 2 cases were notified at Hall Green, 1 at Elton, 1 at Wheelock, 1 at Swettenham, and 1 at Hulme Walfield. A school was closed for a short time owing to prevalence of scarlatina. One of the cases at Hall Green (a woman recently confined) proved fatal on November 14th, and the case at Wheelock (a child 3 years old) terminated in death on November 11th.

**Diphtheria and Croup.**—The only case of diphtheria notified, occurred at Bradwall in July, and terminated in recovery. The 3 cases of croup notified and one other case

proved fatal. A case in March (a child of 8 years) and another in May (a child of 2 years) occurred at Mow Cop. A case in October (a child of 3 years) occurred at Hassall, and a case in December (a child of 3 years) occurred at Wheelock.

**Typhoid and Continued Fever.**—The 3 cases notified as typhoid fever occurred respectively at Wheelock, Astbury and Brereton. The first was in January, the next in July, and the last in September. Of the 6 cases notified as continued fever, 2 occurred at Elton in the same family (in March and April) 3 occurred at Bradwall (in April and October) and one at Wheelock (in July). All the patients recovered.

**Erysipelas.**—The 8 patients notified as suffering from this disease all recovered. One case was reported in January, 2 cases were reported in April, 2 in May, 1 in September, 1 in November, and 1 in December. The cases were in various parts of the District, no case having any connection with others.

**Measles.**—There was some prevalence of this disease at Astbury towards the end of the year, and the local schools were closed in consequence a short time before the usual holidays. There were no fatal cases.

**Whooping-cough** was certified as the cause of two deaths at Smallwood in January and one death at Odd Rode in June. The ages of those who died were respectively 3 months, 5 months. and 17 months.

**Diarrhoea** was certified as the cause of 4 deaths, all in the parish of Odd Rode. One of the deaths (a man 72 years old) occurred in March, one (a woman 18 years old) occurred in September. The other 2 deaths (of infants under a year old) took place respectively in August and October.

**Influenza** was prevalent in several parishes in the spring. On March 24th a death was certified from this disease at Brereton, on April 1st another death at Brereton, and on April 7th a death at Leese. In May, three deaths were certified from the disease, respectively in Tatton, Odd Rode and Smallwood. Two of those who died were between 15 years and 25 years old, two were about 40 years old and two were upwards of 75 years of age. Beside these six deaths, there were no less than 12 deaths which took place in the Workhouse in March and April. The results of this outbreak of influenza in the Workhouse are so remarkable, the following particulars of the 12 fatal cases are extracted from the register:—

Sex and Age of Patient.	Description.	Belonging to	Date of Death.	Certified cause of Death.
M. 73 ...	Labourer	Congleton	March 14	Influenza, Broncho-pneumonia
M. 61 ...	Labourer	Sandbach	...	Influenza, Bronchitis
F. 74 ...	Widow	Odd Rode	...	Influenza, Exhaustion
M. 62 ...	Plumber...	Church Hulme	...	Influenza, Pneumonia
M. 73 ...	Silkworker	Buglawton	...	Influenza, Pneumonia
F. 64 ...	Wife of Carter	Congleton	...	Influenza, Heart failure
M. 68 ...	Boatman	Church Lawton	...	Influenza, Bronchitis
M. 81 ...	Coach-builder	Congleton	...	Influenza, Pneumonia
F. 39 ...	Silkworker	Congleton	...	Influenza, Epilepsy
M. 46 ...	Labourer	Sandbach	...	Influenza, Congestion of Lungs
M. 65 ...	Labourer	Bradwall	...	Influenza, Exhaustion
F. 69 ...	Charwoman	Sandbach	April 21	Influenza, Congestion of Lungs

Thus of the 12 who died, 4 belonged to the Rural District, 4 to the Borough of Congleton, 3 to Sandbach and 1 to Buglawton. Twelve deaths from influenza in one institution, in so short a time, must be almost unprecedented.

**Phthisis** was certified as the cause of 11 deaths. This is equal to a death-rate of 0·84—a rather low phthisis rate.

**Bronchitis and Pneumonia** were certified as the cause of death in 49 cases. This is equal to a death-rate of 3·7 per 1000 living—a decidedly high rate.

**Heart Disease** was certified as the cause of 11 deaths, yielding the low death-rate of 0·84 per 1000 living.

**Deaths from Injuries.**—Of the 7 deaths ascribed to injuries, one was that of an infant feloniously caused by a blow from an unknown person (murder), and one was that of a woman who committed suicide by strangulation, while in a state of temporary insanity. The remaining 5 deaths were all accidental—2 were of infants (1 suffocated and another drowned) and 3 were of men—1 was crushed by a cart, 1 was thrown from a horse and 1 fell from a ladder.

**Isolation Hospital.**—This hospital, which was provided in 1893, and is available for the Congleton Rural District and the Urban Districts of Sandbach and Alsager, is a well-constructed wooden building, but hitherto has not been put to much use. The explanation is that the little erection was intended as a small-pox hospital, and no case of this disease has recently appeared in the Congleton Rural District, or in Sandbach or Alsager.

**Further Hospital Accommodation needed.**—The Hospital doubtless will do good service in isolating occasional cases of small-pox for many years to come, but as it appears to be within a quarter of a mile of the workhouse, its situation is not in accord with the latest views on the subject expressed by the officials of the Local Government Board. However, some provision for the isolation of infectious diseases other than small-pox is needed. The Medical Officer of Health suggests that the best way of making such provision will be for this Rural District to combine with the Borough of Congleton, and the Urban Districts of Sandbach, Alsager, and Buglawton, and form a joint "Hospital District." Not less than four wards in two separate pairs are needed for patients alone, each pair to receive the sufferers from one infectious disease, men and women of course separately.

**Disinfecting Apparatus needed.**—As the only method of efficiently disinfecting infected bedding, &c., is by means of steam, and this can be done solely in a special apparatus, a suitable steam disinfecter should be obtained, and arrangements made for working the same.

**Water-supply.**—The extension of the water-mains from Sandbach to Booth Lane, Bradwall, Wheelock, Wheelock Heath, and Malkin's Bank, is a great accommodation to the inhabitants of these localities, and Mr. Wm. Hill is endeavouring to get as many householders as possible to connect. Parson's Well, at Mow Cop, has been enlarged during the year. The Gray's Close Well is undergoing alterations, and these will soon be completed. The boring at Hassall Green has proved a failure, the water found being bad. Hassall Green, Rode Heath, Thurlwood, Lawton Heath End, and part of Betchton are very much in want of a good supply.

Six samples of water were sent for analysis, and 13 water certificates were granted under the Public Health (Water) Act, 1878.

**Inspector's Report.**—The Inspector, Mr. Wm. Hill, reports that during 1895 he has made 2632 visits in various parts of the district. The number of nuisances reported and abated was 207. There was only one case of overcrowding dealt with. No summons was required to be taken out to enforce the abatement of nuisance. The sewers have been kept in good working order, and the irrigation grounds at Mow Cop, Mount Pleasant, Lawton, and Holmes Chapel have been inspected from time to time, and kept in good order. The scavenging has been well supervised. Holmes Chapel is the only district from which complaints as to the scavenging have been received; and the work there has, since the complaints, been put into new hands.

**Slaughter-houses.**—These have been inspected from time to time, and always found clean and in order. The bye-laws are complied with.

**Common Lodging-houses**, of which there are 6, have been duly inspected.

**Canal Boats.**—The Inspector has not been able to give as much time as usual to the inspection of canal boats. In all 36 boats have been inspected and found in good order.

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## DISLEY.

### Rural District.

Medical Officer of Health—DR. C. J. BENNET.

Population at Census, 1891—2260.

Estimated population in middle of 1895—2300.

Area in acres—2464.

Birth-rate per 1000 living—26·5.

Death-rate per 1000 living—12·6.

Death-rate from seven principal Zymotic diseases—0·8.

Deaths under one year to 1000 births—98.

The entire township of Disley has an area of 2591 acres, and of this all but 127 acres are situated in Cheshire and form the new Rural District of Disley.

The number of births registered in 1895 in the district was 61. The number of deaths registered in 1895 in the district was 29. Eight of the deaths were of infants under one year old, and 8 were of persons 65 years old and upwards. The death-rate is very low—3·6 below the mean of the 3 years 1892-94.

There were 2 deaths ascribed to zymotic diseases, viz.: 1 croup and 1 diarrhoea. There were also 13 deaths from bronchitis or pneumonia and 2 from heart disease.

**Infectious Disease Notified.**—There were 32 cases of infectious disease notified, viz.: 26 scarlatina, 1 diphtheria, 1 croup, 1 typhoid fever, and 3 erysipelas. All these cases were investigated. Disinfectants were used and all necessary precautions taken to prevent the spread of infection.

**Scarlatina.**—The cases of this disease occurring were of the mildest type. Indeed it was through its extreme mildness that the scarlatina spread to the extent it did, for in several instances infected children, before the disease was recognised, mixed with healthy ones.

**Diphtheria and Croup.**—The person who suffered from diphtheria came into the district with the disease upon her. As regards the case of membranous croup, which terminated fatally, it occurred in an insanitary house. The drains were very defective and the back of the premises was in a state of nuisance. These defects have since been remedied.

**Typhoid Fever.**—The case of this disease occurred at Shady Oak. The Medical Officer of Health failed to discover any insanitary conditions or anything to account for the malady.

The cases of erysipelas appeared to arise from cold.

**Proposed Sewage Works.**—Plans for the necessary sewage works have been adopted by the District Council and sanctioned by the Local Government Board. The Medical Officer of Health looks forward to this much needed requirement for the village of Disley being provided.

The sewage at Furness Vale also requires to be dealt with, and the Medical Officer of Health advises that the work be carried out along with that which is in contemplation in the adjoining district of Whaley Bridge. This would be a matter of economy.

**Water-supply.**—The water-supply at Furness Vale was not satisfactory during the dry weather. One of the chief supplies was stopped for several weeks, and the inhabitants of the village were put to great inconvenience.

The ordinary routine sanitary work of the district has been carried on satisfactorily.

Five new houses have been built during the year, and one has been closed as unfit for human habitation.

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### DRAYTON.

#### Part of Rural District in Cheshire.

Medical Officer of Health—DR. F. J. SANDFORD.

Population at Census, 1891—34.

Estimated population in middle of 1895—37.

Area in acres—581.

Birth-rate per 1000 living—54·0.

Death-rate per 1000 living—54·0.

Death-rate from seven principal Zymotic diseases—0.

Deaths under one year to 1000 births—0.

The large Rural District of Drayton, 65046 acres in area, and having a population of 14196 at the date of the Census, is now situated entirely in Shropshire and Staffordshire. Till September 30th, 1895, one small township was in Cheshire. This township (Tittenley) has an area of 581 acres, and contains 6 dwelling-houses. As Tittenley belonged to Cheshire during three-quarters of 1895, it is dealt with as part of the County till the end of the year.

There were 2 births and 2 deaths registered as having taken place in Tittenley during 1895. One of those who died was under 5 years old.

In this district the Infectious Disease Notification Act has been adopted, but no cases notified in 1895 occurred in Tittenley.

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### MACCLESFIELD.

#### Rural District.

Medical Officer of Health—DR. J. L. RUSHTON.

Population at Census, 1891—17329.

Estimated population in middle of 1895—17633.

Area in acres—80384.

Birth-rate per 1000 living—24·3.

Death-rate per 1000 living—19·1.

Death-rate from seven principal Zymotic diseases—0·9.

Deaths under one year to 1000 births—93.

This district has for registration purposes been divided into six sub-districts, as follows:—

1. Alderley, having an area of 13692 acres, and an estimated population of 3020. It includes Birtles, Capesthorne, Lower Withington, Old Withington, Chelford, Snelson, Nether Alderley, Over Alderley, Great Warford, and part of Chorley.

2. Bollington, having an area of 7814 acres, and an estimated population of 2886. It includes Tytherington, Pott Shrigley, Lyme Handley, part of Hurdsfield, and part of Bollington.
3. Gawsorth, having an area of 17983 acres, and an estimated population of 2729. It includes Gawsorth, Bosley, North Rode, Marton, Siddington, Henbury with Pexhall, and Eaton.
4. Prestbury, having an area of 13667 acres, and an estimated population of 5052. It includes Prestbury, Poynton-with-Worth, Woodford, Newton, Adlington, Butley, Mottram St. Andrew, Fallibroome, and Upton.
5. Rainow, having an area of 14274 acres, and an estimated population of 2133. It includes, Taxall, Kettleshulme, Rainow, and Macclesfield Forest.
6. Sutton, having an area of 12954 acres, and an estimated population of 1813. It includes Wildboarclough, Wincle, and part of Sutton.

The birth-rates of these six sub districts were respectively 27.4, 25.9, 23.4, 24.5, 21.5 and 20.9. The death-rates of these six sub-districts were respectively 23.8, 22.1, 15.7, 18.2, 18.7 and 14.3.

The number of births registered in the whole district was 430. The number of deaths registered in the whole district was 265, but to these deaths must be added 72 deaths of persons belonging to the Rural District who died in the Union Workhouse, Infirmary or Lunatic Asylum in the Macclesfield Urban District. Forty-six of the 337 who died were infants under one year old and 122 were persons 65 years old and upwards. The proportion of infants among those who died is small, and the proportion of old people is large.

The number of cases of infectious disease notified was 63, viz. :—18 scarlatina, 32 diphtheria, 4 typhoid fever, 2 puerperal fever, and 7 erysipelas. One of the puerperal fever cases was removed to the Monsall Hospital. The number of cases of infectious disease which proved fatal was 12, viz. :—1 scarlatina, 9 diphtheria, 1 typhoid fever and 1 measles.

**Scarlatina.**—There were 5 cases notified during the first quarter of the year, 8 in the third quarter, and 5 in the last quarter. The only case which terminated in death occurred in the township of Chorley. It was derived from Manchester, being one of two children sent into the country by the Committee of the Children's Holiday Fund on July 23rd.\* As regards 12 of the cases it was found that the sanitary conditions were good. In 4 the drainage of the premises was bad, and in one the water-supply was defective.

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\* On enquiry at the office of the Secretary it was found that these children had been examined by a medical man 3 weeks before they were sent. He promised that in future children should be examined within 48 hours of leaving for the country.

**Diphtheria.**—Of the 32 cases of this disease notified 25 occurred in the last quarter of the year (5 in October, 12 in November and 8 in December). Nine (of which 5 were fatal) were in the sub-district of Alderley; 4 (of which 1 was fatal) were in the sub-district of Bollington; 11 (of which 2 were fatal) were in the sub-district of Gawsworth; and 8 (of which 1 was fatal) were in the sub-district of Prestbury. As regards 16 of the cases it was found that the sanitary conditions were good; in 8 the sanitary condition of the premises was bad, and in 7 there were wet and uncovered ashpits in the rear.

The outbreak in the sub-district of Alderley deserves special notice, as it illustrates the extraordinary fatality of diphtheria in an insanitary and overcrowded house. On November 14th the Medical Officer of Health received 3 notifications of diphtheria at a cottage in Mill Lane, Capesthorne, and on visiting the premises he learned that one of those affected had died on the previous day (the 13th). On the 15th 3 more notifications were received of the same disease at the same cottage. The 6 patients were a mother aged 46 and 5 children aged respectively 12 years, 10 years, 8 years, 6 years and 3 years. One of the children died on November 13th, one on the 18th, two on the 21st, and one on the 26th. The mother alone survived the attack. The cottage where all these deaths took place consists of a living-room, kitchen, pantry and two bedrooms, providing accommodation for a man and wife and 2 children; but 9 persons were crowded into it, being more than double the number it could accommodate with any regard to health and decency. Behind the little house, 30 feet from the kitchen, was an ashpit on a lower level than the garden footpath, at the end of which was a second hole made evidently for the purpose of collecting liquid manure, the products of decomposing vegetables, fruit, excrement, &c., to make a composition for forcing vegetables in the garden. On November 22nd, the Siddington and Capesthorne National Schools were closed, owing to the scare caused by the outbreak in the district.

**Typhoid Fever.**—The first case of this disease was notified early in January. The patient was a child 9 years old living at Adlington. The only defect noted on the premises was that the water-supply was insufficient. The second case (a man 20 years old) occurred in May and was also at Adlington. Sanitary defects were discovered on the premises. The third case (a woman 25 years old) occurred in August at Chelford, the sanitary surroundings being satisfactory. The last case (a man 27 years old) occurred in November at Chorley, and was the only case which proved fatal. The premises here were satisfactory and the water-supply good. In none of these cases was the source of infection traceable.

**Puerperal Fever.**—One case, notified in July, was at Great Warford; and the other, in August, was at Adlington.

As regards the second case, sanitary defects were discovered on the premises.

**Erysipelas.**—The 7 cases of this disease occurred in 7 different townships, viz.: Adlington, Pott Shrigley, Butley, Bollington, Kerridge, Gawsworth and Rainow, and do not appear to have been in any way connected. Four out of the 7 were in the first quarter of the year. In 2 instances sanitary defects were discovered on the premises.

**Measles.**—Outbreaks of this disease occurred in many townships, and at Bosley, North Rode, Bollington Cross, Eaton and Mottram St. Andrew it was deemed necessary to close the schools on account of the prevalence of the malady. The only case which proved fatal was at Bollington.

**Diarrhœa.**—Two of the deaths ascribed to this disease were in Alderley, one was in Bollington and one in Rainow. Two of those who died were upwards of five years old.

**Influenza.**—One death occurred from this disease in the township of Bollington.

**Deaths from Injuries.**—There were 6 deaths coming under this description. One was that of an infant accidentally suffocated on a sofa, another was that of a child (7 years old) buried under a fall of sand, and the third that of a child (9 years old) accidentally burned to death. Three were deaths of children (aged respectively 2, 5 and 8 years) accidentally drowned.

**Sanitary Defects.**—After notification of cases of infectious disease the premises were visited and inspected. As a result, on 19 of the premises examined in this connection sanitary defects of one kind or another were discovered, and steps were forthwith taken to remedy the same.

**Analysis of Water.**—Particulars are given of 15 analyses of water by the County Analyst, and of 48 analyses by the Medical Officer of Health. Of the former, 4 were certified as not fit for domestic use, 2 as of doubtful purity and 1 as needing to be filtered. Of the latter two were certified as bad, and 2 others as needing to be filtered. As soon as any water was found to be not of good quality its use was discontinued, and a better supply was sought for.

**Water-supply.**—A scheme for the water-supply of the village of Prestbury has been prepared and negotiations entered into with the landowners, for water and other rights. On November 12th it was resolved that the Surveyor's report on the means of providing a general water-supply for the village be submitted to the Parish Councils of Butley and Prestbury, for their observations.

On December 10th it was resolved that the Rural District Council be recommended to accept the offer of the Buglawton

Council to supply water to Eaton Bank, and to apply to the Local Government Board for authority to carry out the scheme, and to serve notices on the owners of the houses, under Section 3 of the Public Health (Water) Act, 1878.

On the same date the Surveyor was instructed to prepare an estimate of the cost of laying a 3-inch main from Brook Lane, Chorley, to Lindow End, with a view to making the Stockport Water Works Company's water available to this neighbourhood, together with a report upon the existing sources of supply to the houses, and to ascertain from the Water Works Company at what rate per 1000 gallons they will supply water by meter to this Authority at the present terminus of the Company's mains.

**Water-supply at Langley.**—Mr. W. Whiston, of Langley, in the parish of Sutton, during the year made an offer to the inhabitants of Langley, to take his water-supply into their dwellings at the rate of 2d. per house per week. The acceptance of this offer was put to the vote, when it was found that 41 were willing to pay the 2d. per week and 42 were against doing so; the offer was therefore lost by one vote.

**Alleged Infection by Milk.**—On September 17th the Medical Officer of Health received a communication from Gorton (Lancashire) with reference to an outbreak of typhoid fever in connection with the business of a milk retailer in Gorton. It was explained that 9 cases had occurred in 5 families receiving milk from this retailer, who obtained milk from three farms in the Macclesfield Rural District, *but these were not the only sources of supply.* Of the three farms only one sent a daily supply, the other 2 supplied milk occasionally as requested—such supplies are known in Cheshire as accommodation supplies. A careful examination was made by the Medical Officer of Health (in company with the Medical Officer of Health for Gorton) of the premises and cows at the 3 farms, but nothing was found to account for the outbreak. There had been no case of typhoid fever in the locality.

**The Question of Isolation Hospital Provision.**—On March 12th it was resolved that the District Council be recommended to instruct the Clerk to reply to the enquiry of the County Council, respecting the provision of an Isolation Hospital for the joint use of this and five adjoining Sanitary Districts, to the effect that the proposal of the County Council is approved by this District Council.

**Sewering and Sewage Disposal.**—At the beginning of the year complaint was received from the Mersey and Irwell Joint Committee, respecting the pollution of the Poynton Brook by the sewage of Poynton. A Committee was appointed to deal with the matter, and the Surveyor was instructed to prepare a scheme for the sewerage of the village and the sewage disposal. Owing to the flatness of the district the preparation

of an efficient scheme occupied considerable time. The Surveyor's proposals were submitted to Mr. Fowler, C.E., who approved of them, but recommended a more distant site for the disposal of the sewage. The details of the scheme are being prepared, and will shortly be submitted to the Local Government Board.

A scheme for the sewerage of the village of Prestbury has also been prepared, and negotiations entered into with the Macclesfield Corporation for the reception of the sewage of Prestbury and a portion of Tytherington into the Corporation outfall sewer.

**Anthrax in Swine.**—There was an outbreak of this disease at Pott Shrigley in September, which was promptly stamped out. Of two pigs which had been in the district since July, one was attacked on September 16th, and died on the 18th. The body was buried very deeply in quicklime; and the owner, on advice, had the remaining pig killed and buried in like manner.

The Surveyor and Inspector (Mr. Thorpe) furnishes information as to matters coming under his supervision.

**Nuisance Abatement.**—Fifty-one formal notices were served for the abatement of nuisances and for the provision of efficient water-supplies, but the abatement of a large number of nuisances was obtained without formal notice. There were 138 inlets to drains trapped, 4 waste-pipes disconnected, 8 defective water-closets were replaced by more efficient ones, and 58 privies were re-built or re-arranged. In 49 houses entirely new drains were laid to replace inefficient ones. Ten houses, unhealthy through damp, were improved by removal of soil from walls, draining site, providing them with rain-gutters, spouts, &c.

**Houses Unfit for Habitation.**—It has not been necessary to serve any notice under the provisions of Part 2 of the Housing of the Working Classes Act, 1890. Two houses were reported unfit for habitation. One has been re-roofed and otherwise put in order, the other has been vacated and is to be taken down.

**New Houses.**—Plans of 18 new dwelling-houses or other buildings were submitted and passed. In the course of erection they were visited frequently to see that the bye-laws were adhered to. Eighteen houses were provided with new or improved water-supply.

**Effluent outfalls** from the Sewage Disposal Works at Alderley Edge and Fulshaw, which discharge into streams in the Rural District, have been visited at intervals during the year. The effluents on each occasion appeared to be satisfactory; but in the case of the Fulshaw outfall there were occasionally indications of crude sewage having been allowed to flow through.

**Dairies, Cow-sheds, &c.**—Eleven persons were registered under the Dairies, Cow-sheds, and Milk-shops Order during the year. There are at present 351 persons registered. All the premises were visited and they were generally found well kept.

**Slaughter-houses** were visited regularly and were generally found clean and in good order

**Canal Boats.**—Under the Canal Boats Acts, 38 boats were inspected during the year. The boats were registered for 115 adults, and carried 60 men, 17 women, and 14 children. Six of the children were of school age. Of them 4 appeared to be receiving efficient education, the other 2 were not. The few irregularities noted were amended without any legal proceedings having to be taken. No case of infectious disease was met with.

## MALPAS.

### Rural District.

Medical Officer of Health—DR. W. N. THURSFIELD.

Population at Census, 1891—4,318.

Estimated population in middle of 1895—4,320.

Area in acres—21,160.

Birth-rate per 1000 living—23.3.

Death-rate per 1000 living—16.2.

Death-rate from seven principal Zymotic diseases—0.7.

Deaths under one year to 1000 births—39.

The Rural District of Malpas includes the whole of the registration sub-district of Malpas, and 3 townships in the registration sub-district of Whitchurch.

Malpas registration sub-district has an area of 16468 acres and a population of 3528. It includes Bickley, Hampton, Larkton, Duckington, Edge, Overton, Malpas, Chorlton, Cudlington, Oldcastle, Newton-by-Malpas, Stockton, Wyclough, Wigland, Agden, Chidlow, Bradley, Macefen, and Tushingham-with-Grindley.

The portion of Whitchurch registration sub-district in Cheshire has an area of 4692 acres and a population of 792. It includes Wirswall, Marbury-with-Quoisley, and Norbury.

In 1895 the number of births registered was 101, and the number of deaths was 70, including 6 deaths in the workhouse and hospital outside the district among persons belonging thereto. The birth-rate is 4.5 below the mean birth-rate of the sixteen years immediately preceding, and the death-rate is 2.0 above the mean death-rate of the sixteen years immediately preceding. The proportion of deaths under one year to births has been small for many years—it was exceptionally small in 1895.

The only deaths from zymotic disease were 3 from scarlatina. Thus the zymotic death-rate is very low

**Infectious Diseases.**—The number of cases of infectious disease which came to the knowledge of the Medical Officer of Health was 43, viz.:—41 scarlatina and 2 erysipelas. The number of cases given exceeds the number notified under the Infectious Disease (Notification) Act. As a rule, in outbreaks of scarlatina and diphtheria, and occasionally in outbreaks of typhoid fever, careful investigation will reveal other cases of the disease so mild and ill-defined as not to have attracted notice or received medical attendance. These are most important, as it is generally through patients mildly affected not being kept from school that school agency so frequently disseminates disease. Special care is taken to obviate risk of infection by school attendance, clothing taken in to wash, milk-selling, &c. No hospital is provided, but the necessity of isolation as far as practicable is enjoined, and printed directions are given showing those in charge of the sick how to prevent the spread of infection. On the patient's recovery the need is pointed out of having the infected clothing, &c. thoroughly cleansed, and the infected rooms fumigated with sulphur, and lime washed or re-papered.

**Scarlatina.**—Two very remarkable outbreaks of this disease occurred—remarkable as the source of infection seems to have been in the cows from which the milk-supply of the patients was obtained. The first of these occurred at a farm house in the vicinity of Cuddington in the month of July. In the family (a farmer's) first attacked, the whole household, 9 in number, were affected. The cows on the farm, to nearly 50 per cent. had been, and were at the time of the outbreak, suffering from an “eruptive disease of the teats.” The cows showed no other symptoms of disease sufficient to attract the attention of those in charge of them, and the milk they yielded was not reduced in quantity. The Medical Officer of Health is not able to suggest any source of infection by the ordinary channels, and is driven to the conclusion that the household were infected from the diseased cows. He admits that eruptions on the teats of cows are by no means uncommon and might be expected sometimes to occur simultaneously with scarlatina in the household of the cow-keeper; but here was an outbreak of scarlatina in an isolated community, in which, after full investigation, no reasonably probable source of infection, from previous scarlatina, could be discovered. The marketable products of this infected dairy-farm were cheese and butter. The farmer was not registered as a milk-seller, although he occasionally supplied milk to one or two neighbours. Of the two neighbours supplied at this time one had no children, in the other neighbour's family two children were affected—whether the disease was communicated by personal infection or through the milk remains doubtful.

The second outbreak which occurred in connection with cow-disease, was at a farm four miles distant from the first. It is significant that the families on the two farms were related. The history of the disease is similar. Several cows had an eruption on their udders, similar in appearance to the eruption the other cows suffered from. Then members of the farmer's family were attacked and members of two other families who obtained milk from some of the diseased cows. The Medical Officer of Health is not able to state definitely that the cows were the source of infection in these two outbreaks, but after careful inquiry into all other probable sources he feels justified in stating that the balance of evidence is in favour of that theory.

During the year there were other outbreaks of scarlatina beside the above : one, in the town of Malpas, apparently started with a child who caught the infection in a neighbouring town ; and another, more recently, in Macefen and the neighbourhood, probably derived the infection from the Malpas outbreak.

Altogether 16 households were invaded, and there were 41 cases, 3 of which proved fatal.

After the appearance of the disease at Malpas and Macefen, the managers closed the schools for a few weeks. This was done with the sanction of the Medical Officer of Health, and the effect in checking the spread of infection was very marked.

**Water-supply.**—The supply for Malpas is from the Liverpool mains, but it is intermittent, being turned off at night. Considering the insidious sources of contamination to which an intermittent supply is liable, it is very desirable the supply should be made constant. Moreover an intermittent supply is in itself a frequent cause of waste, through taps being left turned on when the water is turned off. The question of unnecessary waste is important where, as in Malpas, the water is paid for by meter. If the fittings are of the proper kind and the mains not leaky, there should be no unavoidable waste, and wilful or careless waste can be controlled by inspection and enforcement of regulations. The fact that it is necessary to turn off the water at night to stop waste, is incontrovertible evidence that preventable waste is going on also during the day when the water is turned on.

In previous reports, the Medical Officer of Health, when recommending the supply from the Liverpool mains, advised the adoption of a good code of regulations and careful inspection of the main service pipes and water fittings in every house, to stop preventable waste, and the gradual introduction of a class of fittings suitable for a supply on the constant system. On the other hand, he pointed out that unless preceded by a careful survey of the water fittings, the adoption of a constant service would undoubtedly lead to increased waste ; and this has been

shown experimentally. In the autumn, for some time, a trial of the constant system of water-supply was made, with the result that an average increase of between 5,000 and 6,000 gallons a day was registered. The inference from this is that, on the intermittent system, 5,000 gallons run to waste daily, and from notes taken during the severe frost in 1894, when for a time the supply of the town was in great part drawn direct from a stand-pipe, it is probable 5,000 gallons would not represent the total waste.

The detection of unnecessary waste of water, under such circumstances as exist at Malpas, is skilled work, and has to be undertaken chiefly at night. The Medical Officer of Health suggests that the Council should engage for a short time the assistance of one of the numerous inspectors who make a speciality of this work.

At Chorlton, the public well near the brook is liable to be contaminated by surface water from the highway, and should be protected by the Authority. Four houses and sometimes more have their supply from this well. At Hampton, near the highway, is a pond supplying drinking-water for cows. A ditch, which receives the sewage from three houses, overflows into this pond. This pollution should be prevented. In the same township is a public dip-well by the roadside which has of late been partly railed off from the road and opened to cattle in the field adjoining. It should be opened up to the public as formerly and protected from surface water and cattle contamination. The water is always in use for two cottages and occasionally for others. At Norbury the public well, supplying 7 houses as a rule, is about 150 yards from the highway, in a hollow in a grass field, open to cattle and surface contamination. The Medical Officer of Health suggests that it should be domed over with brickwork, and a pump fixed in connection with it. At Gorton's Bank is a public well open to cattle and surface contamination, which should be covered over and provided with a small hand pump. It supplies four or five houses and sometimes more.

At Dawbrook the water-supply of several cottages is a shallow well liable to surface pollution. The drainage of the cottages (including a slaughter-house) is most objectionable. The well should be protected and the cottages redrained.

The deficient water-supply at Cuddington, referred to in previous reports, is receiving attention. By a voluntary arrangement among property-owners and villagers, a new public well is now being provided, from which there is the prospect of obtaining a plentiful supply of wholesome water.

The supply at Oakhill Cottages (12 modern cottages) by means of a pump-well which has been frequently dry is receiving attention. There is reason to hope that these small houses will be provided with a supply from the Liverpool mains.

Two certificates were granted that newly-erected houses had a good supply of water within a reasonable distance.

**Pollution of a Brook.**—During the year fresh complaints have been received of the pollution of Cuddington Brook, and steps have been taken to remedy the worst nuisances arising therefrom. In August one of the Medical Inspectors of the Local Government Board visited the district to inquire into the pollution of the tributaries of the River Dee. He especially noted the fact that, at the southern sewage outfall, the sewage deposits its sediment in a pond, from which in wet weather flood water would presumably carry it on into the brook.

**Houses unfit for Habitation.**—Several houses have been reported as unfit for human habitation, and have been dealt with under the provisions of the Public Health Act, 1875. Two cottages at Cuddington have been pulled down and rebuilt, and other houses reported have been repaired and improved.

**Isolation Hospital Provision.**—The Medical Officer of Health was requested, in connection with a communication from the Cheshire County Council, to report on isolation hospital provision, and the proposed scheme for making provision so far as it relates to Malpas. He reported as follows:—“An emergency hospital, to cope with an established epidemic of one disease, can be temporarily run up, but such an arrangement does not meet the requirements of the case—the provision of suitable isolation for first cases not capable of being otherwise suitably isolated. Such a hospital, however small, should be capable of at any time receiving a case or cases of any two of the ordinary dangerous infectious diseases, of either sex. The two diseases of the above class most liable to become epidemic in rural districts are scarlet fever and diphtheria, and these are two diseases which require most strict isolation one from the other, as one disease generally predisposes to an attack of the other, and this necessarily involves special and careful construction. Every isolation hospital, however small, moreover, requires special appliances in the shape of an ambulance, disinfecting apparatus, &c., and the question of expense thus becomes considerable. I am strongly of opinion that as a rule such hospitals could be best provided by the combination of more than one district, or of parts of two adjoining districts, as the boundaries of existing sanitary districts are so irregular and interlaced as to render them, as a rule, very unsuitable areas for access to a district isolation hospital. With reference to the proposed scheme, and assuming the hospital to be centrally placed, the Malpas district would be on the outside limits of distance, and I would suggest very mature consideration and a specific statement as to the site of the proposed hospital, before deciding upon the question. As I have said before, an emergency hospital is a comparatively simple matter, but a standing and fully

equipped hospital is a most serious matter, and should be considered both with reference to accessibility and the share of expenses incurred."

**Systematic Inspection.**—During the year at certain periods and as occasion required, the Medical Officer of Health inspected the district, to keep himself informed by personal observation, as to the conditions injurious to health existing therein, or to advise in doubtful cases, &c. Important as are these inspections, the investigation of the condition and surroundings of each house is the surest foundation and most practicable method of sanitary progress. A precise and detailed house-to-house survey has therefore been ordered by the Authority, and is now being carried out by the Inspector, and followed by notices, &c., as may be required when defects are discovered.

**Abatement of Nuisances.**—The attention given by the Inspector to complaints made, and to a systematic house-to-house survey, is indicated in the following return:—The number of houses inspected was 95 ; the number of notices served, formal and informal, was 57 ; and the approximate number of these complied with was 55. In 11 houses new drains were constructed or old ones amended, in 13 houses new closets were provided or old ones reconstructed, in 3 cases houses dilapidated, damp or dirty, were put in order, and in 3 the water-supply was amended. In 5 cases offensive accumulations had to be removed. Twenty-one houses were disinfected.

Cow-sheds, dairies, slaughter-houses and bake-houses were looked after by the Inspector, and any nuisances or irregularities in connection therewith dealt with.

## NANTWICH.

### Rural District.

Medical Officer of Health—After September 12th, the  
COUNTY MEDICAL OFFICER.

Population at Census, 1891—22903.

Estimated population in middle of 1895—23285.

Area in acres—98458.

Birth-rate per 1000 living—27.3.

Death-rate per 1000 living—13.6.

Death-rate from seven principal Zymotic diseases—0.5.

Deaths under one year to 1000 births—110.

Four Townships (Tiverton, Tilstone Fearnall, Beeston, and Burwardsley) were taken from the Nantwich Rural Sanitary District and added to the Tarvin Rural Sanitary District on July 1st, 1892. Parts of three Townships (Coppenhall Church, Shavington-cum-Gresty, and Wistaston) were taken from the

Nantwich Rural Sanitary District and added to the Borough of Crewe, by Local Government Order (duly confirmed) which came into operation on November 9th, 1892. The area and population of the Nantwich Rural District have therefore since the Census been reduced as follows :—

	Area in Acres.	Population at Census.
Nantwich R. S. D. in 1891 ...	104932	28326
Less portion added to Tarvin R. S. D.	5617	1401
Less portion added to Borough of Crewe	857	4022
 Nantwich R. S. D. ... ...	 98458	 22903

In 1895 the number of births registered in the district was 636, and the number of deaths registered in the district (including 13 which took place in the Workhouse in the Nantwich Urban District) was 317.

The whole district, for registration purposes, has been divided into 4 sub-districts. These are as follows :—

1. Crewe, having an area of 31145 acres, and an estimated population of 11045. It includes Warmingham, Haslington, Barthomley, Crewe, (taking in Crewe Green), Willaston, Weston, Basford, Rope, Stapeley, Walgherton, Wybunbury, Hough, Chorlton, Lea, Blakenhall, Checkley-cum-Wrinehill, Bridgemere, Hunsterson, Doddington, Hatherton, Batherston, and parts of Coppenhall Church, Shavington-cum-Gresty, and Wistaston.
2. Nantwich, having an area of 21300 acres, and an estimated population of 3538. It includes Coole Pilate, Austerson, Baddington, Edleston, Burland, Faddiley, Brindley, Acton, Henhull, Hurleston, Poole, Stoke, Cholmondestone, Aston-juxta-Mondrum, Worleston, Alvaston, Woolstanwood, Leighton, and Minshull Vernon.
3. Bunbury, having an area of 15845 acres, and an estimated population of 3105. It includes Minshull Church, Wettenhall, Bunbury, Alpraham, Calveley, Wardle, Haughton, Spurstow, Ridley, and Peckforton.
4. Wrenbury, having an area of 30168 acres, and an estimated population of 5597. It includes Chorley, Wrenbury-cum-Frith, Woodcott, Broomhall, Didcote-cum-Wilkesley, Sound, Audlem, Burton, Hankelow, Baddiley, Newhall, Cholmondeley, Egerton, Bickerston, and Bulkeley.

The birth-rates of these four sub-districts were respectively 28·4, 23·4, 30·2 and 25·9. The death-rates of these four sub-districts were respectively 13·4, 13·0, 17·7 and 11·9.

The birth-rate of the whole district was 1·3 below the mean birth-rate of the three years 1892-94. The death-rate of the whole district was 2·1 below the mean death-rate of the same three years.

The number of births registered in the first quarter was 162, in the second 163, in the third 168, and in the fourth 143. The number of deaths registered in the first quarter was 103, in the second 85, in the third 59, and in the fourth 70. The death rate was thus remarkably low during the third quarter.

**Infant Mortality.**—Seventy of the deaths recorded were of infants under one year old, viz. :—17 bronchitis or pneumonia, 14 debility or marasmus, 12 convulsions, 12 premature birth, 3 malformation at birth, 4 tuberculous disease, 4 inanition, 2 whooping-cough, 1 diarrhoea and 1 inflammation of stomach. Twenty-seven were registered in the first quarter, 22 in the second, 10 in the third, and 11 in the fourth. Fifty-four of the 70 infants were under six months old at the time of death.

**Notification of Infectious Cases needed.**—One of the most important means sanitary authorities have of checking the spread of infectious disease is the power to require the prompt notification of cases. This power (previously obtained in many districts under local Acts) was given to authorities in England and Wales, and compulsory notification was given to the metropolis, by the Infectious Disease (Notification) Act, 1889. The Act may be adopted by vote of the local authority, after public notice has been given ; and it has been adopted throughout Cheshire in all the Urban Districts except four, and in all the Rural Districts except one. The Nantwich Rural District is the only Rural District which has not up to the present appropriated the powers offered. The District Council would do wisely to re-consider this matter at an early date, and take steps for obtaining the regular notification of dangerous infectious diseases. As the Act is not in force locally any information received of cases of infectious disease is obtained precariously, and often the first intimation received of a case is after it has proved fatal.

**Scarlatina.**—Two or three mild cases of this disease were reported at Wrenbury in May and June. In August, September and October fresh cases occurred in Wrenbury and a few in the adjacent township of Baddiley. On enquiring it appeared that this little outbreak originated in a child while still “peeling” attending the local school. The child had not been attended by a medical man. In August there were also two or three mild cases at Minshull Vernon. In September there were cases at Crewe Green, Haslington and Shavington ; some of which were apparently derived from Crewe. These cases were not communicated to others except at Haslington. In October and November there were cases at Willaston, two or three cases at Blakenhall, one at Lea and one at Bunbury. In December there were cases at Audlem, Minshull Church and Hunsterson. Thus during the last five months of the year there were a good many cases in various townships, which directly or indirectly

came to the knowledge of the local authority. The number is not easy to estimate as few formal reports were received and doubtless many cases escaped notice altogether. There were at least 35 cases, 20 of which were in the Crewe sub-district. The cases reported were investigated and such steps as were practicable taken to prevent the spread of the disease. The sole death from scarlatina during the year was of a child (14 months old) at Willaston, on October 28th.

**Diphtheria and Croup.**—The only cases coming to the knowledge of the authority were 2 which proved fatal, respectively on November 8th and December 31st. In one, the case of a child (2 years old) at Haslington, death was ascribed to membranous croup. In the other, the case of lad (14 years old) at Worleston, death was ascribed to diphtheria. These cases were investigated and steps taken to prevent the spread of infection.

**Typhoid Fever.**—A case of this disease proved fatal on November 15th at Haslington; and another case (not fatal) was reported on December 12th at Shavington. There seems ground for concluding that the Shavington case was derived from Crewe.

**Measles** was epidemic in Wrenbury and in that neighbourhood in November. Owing to absences of children from infected houses the attendances at the Wrenbury Schools and the Broomhall Schools fell off almost daily from early in November. On November 12th the Broomhall Schools were closed, and on November 20th the Wrenbury Schools were closed; the closing in both instances having the approval of the Medical Officer of Health. The only death from measles took place on October 4th at Willaston, the subject being a child 13 years old.

**Whooping-cough.**—Two deaths were recorded from whooping-cough, one on March 29th at Minshull Vernon, and one on October 20th at Bunbury. Both patients were infants under a year old.

**Diarrhœa** was registered as the cause of death in 5 cases. In February a child 7 years old died from diarrhœa at Peckforton, and in August an infant 4 months old died of diarrhœa at Newhall. The other 3 deaths took place at Weston (2 in August and 1 in September), the ages of those who died being respectively 48, 76, and 83. Thus infantile diarrhœa, which is often so prevalent in the autumn, caused one death only.

**Influenza** was the registered cause of 4 deaths—one being in March, 2 in June, and 1 in August. One was at Bunbury, 1 at Broomhall, and 2 were at Bickerton. The ages of those who died were respectively 25 years, 29 years, 70 years and 74 years.

**Lung Diseases.**—Pulmonary phthisis was certified as the cause of 16 deaths. This is equal to a death-rate of 0.68.

Bronchitis and pneumonia were certified as the causes of 56 deaths. This is equal to a death-rate of 2.4. Neither of these are high death-rates.

**Heart Disease** was certified as the cause of 44 deaths. This is equal to a death-rate of 1.88, which is high.

**Deaths from Injuries.**—The 7 deaths ascribed to injuries were all accidentally caused. Two deaths of children, under 7 years old, were due to drowning. A death of a man 21 years old and of a child 7 years old, were due to severe burns. Two deaths of old people were due to falls—an old man of 85 years fell from a ladder, and an old woman of 77 years fell out of bed. The death of a child 9 years old was due to choking, from a piece of apple getting into the windpipe.

**Isolation Hospital needed.**—As this large Rural District has not yet made any provision for the isolation and treatment of cases of dangerous infectious diseases which cannot be properly isolated and treated at home, it is without one of the most important means of checking the spread of infection. The Medical Officer of Health suggests that the best way of making such provision, will be for the Rural District to combine with the Nantwich Urban District and form a joint "Hospital District." Not less than 30 beds will be required.

**Disinfecting Apparatus needed.**—As the only method of efficiently disinfecting infected bedding, &c., is by means of steam, and this can be done solely in a special apparatus, a suitable steam-disinfector should be obtained and arrangements made for working the same. This matter might be considered in connection with the provision of hospital accommodation.

**Report of the Surveyor and Inspector.**—Mr. J. A. Davenport furnishes information as to water-supply and matters coming under his supervision. From this it appears that a large amount of good work has been done during the year, especially in the matter of water-supply. Little, however, has been effected as to any general system of sewerage in the larger villages, and in some instances this is much required. Sanitary improvements are continually being carried out in the district, but much still needs doing in very many places.

The new main sewer at Audlem is working well. A very desirable improvement will be carried out when those portions of the village which can be connected with this sewer are connected. The sewage in the tanks at Calveley is still being treated with alumino-ferric, and an attempt to reduce the quantity used showed that this was not practicable.

**Water-supply.**—One hundred and twenty-eight houses have been newly supplied with water from the public mains during 1895. Eight miles of mains have been laid during the same period. Up to the present the Authority have supplied 3104 houses, and 111 miles of water-mains have been laid.

There have been 63 inspections of houses under the Public Health (Water) Act, 1878. Three samples of water have been sent for analysis.

New water-works have been carried out or extensions made at Bunbury, Burland, Minshull Vernon, Shavington-cum-Gresty, Weston, Basford and Edleston. Government inquiries have been held for water-supplies for Bulkeley, Cholmondeley, Edleston, Haslington, Warmingham and Wettenhall, and works in these townships are either being carried out or shortly to be begun. The water-supplies of Calveley, Alpraham, Minshull Church, Bickerton, Ridley, &c., are still under consideration, as also are extensions in many of the townships having a water-supply. Public pumps have been provided at Wrenbury and Haslington, and many private water-supplies have been improved.

**Nuisance Abatement.**—Statutory notices have been served in respect of 167 premises. New drainage has been laid down in 39 houses. New privies and covered ash pits have been erected or old ones altered at 32 houses. Other permanent sanitary improvements have been made at 25 houses. Various nuisances, not included in the above, have been abated at 40 houses. In 85 cases the nuisances have not as yet been abated or are in course of being abated or are waiting re-inspection. A number of nuisances have been abated by agreement without service of notices. In one case legal proceedings had to be taken to enforce the abatement of a nuisance at two houses in Burland. This case stands adjourned to allow the owners time to do the work required.

**Insanitary Houses.**—Four dwelling-houses have been closed as unfit for human habitation.

**Scavenging.**—The District Council have scavenging contracts in respect of Haslington, Willaston, Shavington and Audlem, and during the year there were 2526 inspections of premises in connection with these contracts. The work has been generally carried out fairly well. The necessity for good scavenging at Barbridge has been very urgent, and the owners of houses there have agreed to attend to this.

**Overcrowding.**—Cases of this nuisance from time to time occur. When those who crowd the house are members of the same family arrangements have to be made for getting some of the children accommodated at a neighbour's house. When two families are in a house or lodgers cause the overcrowding, prompt action is taken, but there has only been one case of this kind during the year.

**New Buildings.**—Plans for 63 new buildings have been passed during the year, making a total of 1708 plans for new buildings passed in the District since urban powers in respect of new buildings were conferred on the Authority. Each new building of course necessitates several inspections.

The only common-lodging house in the District is now closed.

**Dairies and Cowsheds** have been inspected as opportunity offered, but the Inspector states that very little time could be given to this work.

**Slaughter-houses** have been inspected from time to time. The registered houses are in many ways open to improvement. One new slaughter-house was licensed in 1895.

**Canal Boats.**—Besides occasional casual inspections of boats of which no record has been kept, 40 boats have been properly inspected and full details of each entered in the Journal. Fourteen boats entirely conformed to the Acts and Regulations, leaving 26 in which infringements were noticed. In one instance there was a failure to produce the certificate and in another the certificate did not identify the owner with the boat. In one instance the markings were indistinct, and one boat was overcrowded. In three boats there was an absence of the partition for separating the sexes. Three boats were wanting in cleanliness, and in 12 boats the repainting of cabins was required. Six boats were dilapidated more or less and required repair, and on 7 boats there was the want of a proper water vessel. The ventilation of cabins was in all cases fair, and the removal of bilge-water was generally attended to. All the infringements noted have been brought to the attention of the owners of the boats. No infectious disease was found in any of the boats inspected. No legal proceedings, in connection with the boats, have been taken during the year.

## NORTHWICH.

Rural District.

Medical Officer of Health—After September 12th the  
COUNTY MEDICAL OFFICER.

Population at Census, 1891—20923.

Estimated population in middle of 1895—22747.

Area in acres—54301.

Birth-rate per 1000 living—33.9.

Death-rate per 1000 living—16.8.

Death-rate from seven principal Zymotic diseases—0.9.

Deaths under one year to 1000 births—138.

In 1895, the number of births registered in the district was 772, and the number of deaths registered in the district (together with 3 which took place in the Victoria Hospital and 6 which took place in the Workhouse in the Northwich Urban District) was 383.

The whole district for registration purposes has been divided into four sub-districts. These are as follows:—

1. Weaverham, having an area of 18,000 acres, and an

estimated population of 8613. It includes Delamere, Eddisbury, Oakmere, Cuddington, Weaverham, Crowthton, Acton, Little Leigh, Barnton, and part of Hartford.

2. Northwich, having an area of 10,891 acres, and an estimated population of 8352. It includes Cogshall, Comberbach, Marbury, Marston, Wincham, Lostock Gralam, Peover Nether, Allostock, Anderton, part of Leftwich, and part of Winnington.
3. Over, having an area of 12472 acres, and an estimated population of 3083. It includes Marton, Darnhall, Little Budworth, Wimboldsley, Clive, Moulton, and Eaton.
4. Middlewich, having an area of 12938 acres, and an estimated population of 2699. It includes Davenham, Rudheath, Whatcroft, Bostock, Stanthorne, Sproston, Byley-cum-Yatehouse, Lach Dennis, part of Newton, and part of Kinderton-with-Hulme.

The birth-rates of these four sub-districts were respectively 32.9, 34.9, 32.1 and 35.9. The death rates of these four sub-districts were respectively 18.9, 17.1, 12.9 and 13.7.

The birth-rate of the whole district was 0.4 below the mean birth-rate of the three years 1892-94. The death-rate of the whole district was 0.2 below the mean death-rate of the same three years.

The number of births registered in the first quarter was 197, in the second 209, in the third 181, and in the fourth 185. The number of deaths registered in the first quarter was 103, in the second 91, in the third 96, and in the fourth 93. The death-rate being highest in the first quarter is apparently due to the low temperature which was then prevalent.

**Infant Mortality.**—One hundred and seven of the deaths recorded were of infants under one year old, viz. : 20 bronchitis or pneumonia, 18 atrophy, debility or marasmus, 17 convulsions, 15 inflammation of the stomach and intestines, 4 diarrhoea, 14 premature birth, 4 malformations at birth, 5 thrush, 2 measles, 4 tuberculous diseases, 2 suffocation in bed, one syphilis and one poisoning by misadventure. Twenty-three were registered in the first quarter of the year, 22 in the second, 34 in the third, and 28 in the fourth. Thus infant mortality was most marked during the late summer and autumn, and the main cause then was gastric and intestinal disturbance. Seventy-nine of the 107 infants were under six months old at the time of death.

**Infectious Diseases.**—The number of cases of infectious diseases notified was 129, viz. : 90 scarlatina, 7 diphtheria, 1 croup, 13 typhoid fever, 4 puerperal fever, and 14 erysipelas. Of the whole number 25 were notified during the first quarter, 18 during the second, 31 during the third, and 55 during the

fourth. Two of the scarlatina cases and one of the typhoid fever cases were removed to the Isolation Hospital at Marbury. In all 8 of the cases of infectious diseases notified terminated fatally.

**Scarlatina** was more or less prevalent in many parts of the Rural District. At Lostock Gralam 9 cases of the disease were reported between January 5th and June 3rd, and 9 further cases were reported between August 9th and October 12th. Five cases occurred at Wincham, 5 at Cuddington and 4 at Davenham; and towards the close of the year 8 cases occurred at Winnington, 7 at Marton and 5 at Eddisbury. Exactly half the cases notified were in townships belonging to the Northwich sub-district. Of the whole number of cases 37 were notified in November and December. Only 2 deaths were ascribed to scarlatina.

**Diphtheria.**—Isolated cases of this disease occurred at Kelsall, Eddisbury and Little Budworth. The disease also appeared at Lostock Gralam and Byley Hill, where it was not limited to the first case. The only case of membranous croup notified (an infant 16 months old) was at Byley Hill, and proved fatal at the end of August. As early in October two cases of diphtheria were reported in the same family, the case of croup may not unreasonably be regarded as probably diphtheritic in character. The case at Little Budworth was a girl, 7 years old, who died on November 11th. It was preceded by several cases of sore throat in the village, some of which may have been diphtheritic. As the deceased had been attending the Oulton Park Schools, they were closed for a time, cleaned and disinfected, and the school buildings were specially inspected by the Medical Officer of Health. Thus out of 8 cases notified as diphtheria or croup 2 terminated fatally.

**Typhoid Fever.**—Cases of this disease were notified in January, March, June, August, September, October and November. There was a single case at Crowton, another at Cuddington, and another at Davenham, and there were two cases not connected in any way at Lostock Gralam, and two not connected at Barnton. In the autumn were three distinctly connected cases at Winnington. One of the Barnton cases (a lad 14 years old) proved fatal on January 14th, the Crowton case (a lad of 16) proved fatal on July 24th, and one of the cases at Lostock Gralam (a woman aged 31) on November 8th.

**Puerperal Fever.**—The 4 cases notified were at Leftwich, Marton, Lostock Gralam, and Moulton. They occurred in the spring and summer, but were in no way connected. The case at Leftwich had a fatal termination.

**Erysipelas.**—No death was ascribed to this disease, but 14 cases were notified. Four were reported in April, and five in June and July. Except at Anderton (where two cases

occurred in the same family) and at Wincham (where there was a possible connection between two cases) the disease did not spread.

**Measles** was prevalent during the last quarter of the year and in the immediate neighbourhood of the town of Northwich. So prevalent was the disease in the village of Winnington Park that on December 5th only 105 infants out of 235 attending the School were present, and on the following day the School was closed, with the approval of the Medical Officer of Health. As the disease is not notifiable there is no way of forming an estimate of the number of cases which occurred. However, as measles was the certified cause of 8 deaths there must have been many cases. Six of these deaths took place at Winnington, one at Cogshall and one at Rudheath. All occurred between December 17th and 30th.

**Whooping-cough** was certified as the cause of death in 2 cases at Anderton. One death was in April, one in June, and both the patients were under 2 years old at the time of death.

**Diarrhoea** was certified as the cause of death in 4 cases, 2 being at Barnton, one at Winnington, and one at Clive. The deaths took place in August, September and October, and all the patients were under 10 months old at the time of death.

**Influenza** was prevalent to a considerable extent during the first half of the year. It was registered as the cause of death in 14 cases, viz., 1 in January, 7 in March, 5 in April, and 1 in June. Five of the fatal cases occurred at Weaverham, 2 at Crowton, 1 at Oakmere, 1 at Lostock Gralam, 1 at Comberbach, 1 at Wincham, 1 at Anderton, 1 at Moulton, and 1 at Davenham. Three of those who died from influenza were under 5 years of age and 6 were 60 years old and upwards.

**Phthisis** was the certified cause of death in 23 cases. This is equal to a death-rate of just over 1 per 1000 living—a rather high phthisis death-rate for a Rural District. Thirteen of the 23 deaths were registered in the Weaverham Sub-district.

**Bronchitis and Pneumonia** were certified as the causes of death in 75 cases. This is equal to a death-rate of 3.3 per 1000 living—a decidedly high death-rate for a Rural District.

**Heart Disease** was certified as the cause of death in 28 cases. This is equal to a death-rate of 1.2 which is not excessive.

**Deaths from Injuries.**—Of the 20 deaths classed under the heading "injuries," 2 were due to suicide during temporary insanity and 18 to accident. Of the accidents 6 were due to drowning, 2 were due to injuries on the railway, 6 were due to the persons having fallen, 1 was due to a man being buried by a fall of earth, 1 was due to suffocation in bed, 1 to a burn, and 1 to poison taken inadvertently.

**Isolation Hospital.**—This hospital, which was provided owing to the appearance of small-pox in the locality in 1893, and arranged to accommodate 4 patients, was enlarged during the summer of 1895. It now has 3 wards and may accommodate 6 patients simultaneously. During 1895 4 patients were isolated and treated in Hospital—2 were suffering from scarlatina, 1 was suffering from typhoid fever, and one from influenza. All made a good recovery.

This hospital is substantially built and good of its kind, but it must be obvious that providing a small temporary hospital such as this, however excellent it may be, is not making adequate provision for the isolation of infectious cases in a district having a population of about 23,000. The Medical Officer of Health suggests that the Rural District, jointly with the Urban Districts of Northwich, Middlewich and Winsford, provide an isolation hospital for two or more infectious diseases, and the present hospital at Marbury might then be reserved solely for small-pox.

**Disinfecting Apparatus needed.**—Though there is a small disinfecting apparatus provided in connection with the hospital, there are no means of efficiently disinfecting infected bedding, bed-clothes, wearing apparel, &c. Suitable appliances for disinfecting by steam are now to be obtained at moderate cost, and one should be provided.

**Water-supply.**—The Surveyor reports that the 17 townships supplied have had an uninterrupted service through the year, and that the townships of Delamere and Oakmere have obtained a supply from the Liverpool mains. He notes also that the water-service has been extended to Barnton. Altogether three miles of new mains have been laid during the year, giving a supply to 41 houses.

**Sewering.**—The sewers in the 11 townships seweried, and the works for purifying the effluent, have been maintained in good order. The Surveyor also reports that the new sewage works at Lostock Gralam have been completed, and the improved method of sewage-purification adopted gives satisfaction.

**New Houses.**—There have been 86 new houses completed and approved during the year. This brings the number of houses in the district up to 4649.

**Scavenging and Nuisances.**—The number of houses provided with pails, emptied and cleansed weekly by a Contractor in the employ of the Council, is 1876. Nuisances have been abated at 180 houses during the year, and 17 summonses have been taken out to enforce the notices to abate nuisances.

The routine duties of the Department of the Surveyor and Inspector appear to be well attended to, including the inspection of dairies, cow-houses, &c., and registered slaughter-houses. In September the Council appointed an Assistant Surveyor and Inspector.

During the year, 71 canal boats were inspected, and were generally found clean and in order. Eight boats were required to be painted and re-lettered.

## RUNCORN.

### Rural District.

Medical Officer of Health—DR. J. ADAMS.

Population at Census, 1891—24,661.

Estimated population in middle of 1895—26,052.

Area in acres—49,320.

Birth-rate per 1000 living—24.9.

Death-rate per 1000 living—14.8.

Death-rate from seven principal Zymotic diseases—1.7.

Deaths under one year to 1000 births—161.

This district has for registration purposes been divided into three sub-districts. These are as follows:—

1. Budworth, having an area of 22,162 acres, and an estimated population of 8,753. It includes Great Budworth, Seven Oaks, Antrobus, Crowley, Higher Whitley, Lower Whitley, Bartington, Stretton, Appleton, Walton Inferior, Walton Superior, Acton Grange, Moore, Keckwick, Hatton, Daresbury, Newton-by-Daresbury, Preston on the Hill, and Dutton.
2. Runcorn, having an area of 9,034 acres, and an estimated population of 5,558. It includes Aston Grange, Aston-by-Sutton, Sutton, Stockham, Norton, Halton, Weston, and Clifton or Rocksavage.
3. Frodsham, having an area of 15,727 acres, and an estimated population of 9,283. It includes Frodsham Township, Frodsham Lordship, Helsby, Alvanley, Manley, Newton-by-Frodsham, Kingsley, Norley, and Kingswood.

To the first of these sub-districts must now be added the Cheshire portion of the Rural District of Warrington. Since the beginning of 1895, this has been combined with the Runcorn Rural District.\*

The area and population at the Census of the portions of the Warrington Rural District thus added appear to be as follows:—

		Area in Acres.	Population at Census.
Part of Latchford	...	529	440
Grappenhall	...	1610	984
Thelwall (including Greenfield)		1258	770
		3397	2194

\* The area of the Runcorn Rural District was thus increased on December 28th, 1894.

It is estimated that the population of these three added portions was, in the middle of 1895, as follows :—

	Population in 1895.
Part of Latchford	... 494
Grappenhall	... 1115
Thelwall (including Greenfield)	... 849
	<hr/>
	2458

The number of births registered in the whole district in 1895 was 651. The number of deaths in the whole district in 1895 (excluding deaths not belonging to the district, which took place in the workhouse at Dutton) was 388.

The birth-rates of the three sub-districts were respectively 22.6, 24.8 and 27.9. The death rates of the three sub-districts were respectively 16.2, 14.5 and 13.4.

Of the whole number of deaths 9 were not certified by either Medical Practitioner or Coroner, *i.e.* 2.3 per cent. Thirty-four formed the subjects of Coroners' inquests, *i.e.* 8.7 per cent.

The number of deaths due to the seven principal zymotic diseases was 46, viz. : 5 scarlatina, 2 diphtheria, 16 measles, 3 whooping-cough, and 20 diarrhoea. There were also 4 deaths from rheumatic fever and 12 from influenza.

**Infectious Diseases notified.**—There were 206 notifications of dangerous infectious disease in 1895. The number notified in 1894 was 202, and the number notified in 1893 was 325. Of the cases notified in 1895, 163 were scarlatina, 16 diphtheria, 10 typhoid fever, 2 continued fever, and 15 erysipelas. A tabular statement of 49 outbreaks of infectious disease is given by the Medical Officer of Health in his Report, which shows the results of his investigations in respect of the most important cases notified.

**Small-pox** did not recur in 1895, but a case which it was thought might be small-pox was brought to the notice of the Medical Officer of Health. This was a case of chicken-pox of so aggravated a type as to bear a strong resemblance to small-pox. The patient was re-vaccinated at once and the operation succeeded ; and at the same time all the members of the family were re-vaccinated.

**The Isolation Hospital** at Moore is still retained, and kept in readiness should small-pox appear in the district.

**The Steam Disinfecto**r.—The Medical Officer of Health draws attention to the fact that the disinfecto (Washington Lyon's) only remains on its present site, near the Hospital, during the pleasure of the Manchester Ship Canal Company.

**Measles.**—This disease not being notified, the extent of its prevalence can only be judged of through the death returns. In Halton there seems to have been a severe outbreak, for 6 deaths from measles were recorded there—representing a death-rate of 3.6 of the local population. There were also 3 deaths at

Walton Inferior—representing a death-rate of 6.5 of the local population. Of the remaining deaths 3 occurred at Appleton, 2 at Weston, 1 at Frodsham Lordship and 1 at Thelwall.

**Scarlatina** affected the district almost as severely in 1895 as in 1893, when 171 cases were reported. In 1895 the disease invaded 21 of the 39 townships in the district, but the main incidence of the disease fell upon Weston (38 cases and 3 deaths), Halton (20 cases), Frodsham (19 cases and 1 death), Frodsham Lordship (13 cases), Appleton (18 cases) and Moore (9 cases and 1 death).

In several townships measles and scarlatina occurred together, and necessitated the closing of the schools. In every instance this was accompanied by an immediate abatement in the number of cases reported. In particular, schools at Frodsham, Appleton (Stockton Heath) and Moore were closed for a month.

The Medical Officer of Health has usually discussed the question of isolation and disinfection in this part of his Report, as it is in connection with scarlatina that the need of efficient isolation and disinfection is most felt. The disinfecting apparatus is not in a conveniently accessible place, and there is no Isolation Hospital except the temporary erection for smallpox cases. Further isolation accommodation is required, especially for scarlatina. In view of the possible injury they may disseminate around them, 163 cases of scarlatina, occurring among a population of 26,000, require more both as regards disinfection and isolation than it is at present in the power of the district sanitary officials to carry out.

**Diphtheria** appeared at Weston (3 cases and 1 death), Frodsham (4 cases), Frodsham Lordship (4 cases and 1 death) and Newton-by-Frodsham (5 cases). The disease was slightly less prevalent and less fatal than in recent years. In this district, diphtheria has usually been associated with defective sanitary arrangements. It was so as regards cases at Weston, Frodsham and Frodsham Lordship, but the house in which the disease occurred at Newton-by-Frodsham, was a large, well-ordered residence, where no insanitary conditions could be discovered, yet the disease spread, attacking almost everyone in the house.

**Whooping-cough.** — There was a death from this disease at Acton Grange, 1 at Preston-on-the-Hill and 1 at Whitley Inferior. Cases not being notified the extent of the disease is not known. Three deaths represent a mortality below the average.

**Typhoid Fever** was very little in evidence during 1895. A case occurred at Daresbury, in May, and another case at Newton, Frodsham, in August. In both it appeared that emanations from the sewers were the cause of the disease. In respect of two cases reported in October, one in Main Street, Frodsham, and the other at Moore, it was believed the drinking water was the

chief factor in producing the disease. In other cases no cause could be assigned. A case at Appleton in April and a case at Alvanley, in December, were imported into the district. It is certainly a matter for special comment that in this large rural area there were only 10 cases and none fatal. In 1894 there were 18 cases of typhoid fever notified and 7 deaths. In 1893, there were 31 cases notified and 7 deaths.

**Continued Fever.**—Two cases were notified. Typhoid fever was notified a few days later, by another Medical Practitioner as occurring in one of the houses in which continued fever had been recently notified. The Medical Officer of Health thinks that "continued fever" should no longer have a place among notifiable diseases and should be removed from the Local Government Board Statistical Tables A and B. He believes that no such disease exists of sufficient importance to entitle it to be retained in the list of diseases required to be notified. "It is either typhoid fever, which the Medical Attendant cannot with sufficient accuracy diagnose to his own satisfaction, or it is a long continued febricula, or an influenza or some other organic disorder with a continued high temperature.

**Diarrhœa** accounts for 20 deaths. Sixteen were of children under 5 years old, nearly all being infants. At Appleton were 7 deaths, at Frodsham 5, at Helsby 3, and there was one death in each of the following townships—Halton, Weston, Seven Oaks, Latchford and Kingsley. The mortality from diarrhœa varies much from year to year—in 1894 there were 9 deaths from this malady, in 1893 there were 35.

**Erysipelas.**—Though 15 cases were notified there were no deaths. "In rural districts, this disease might be removed from the list of notifiable diseases."

**Influenza** prevailed in 1895 with unusual virulence. At Halton were 3 deaths, at Norley 2, and there was one death in each of the following townships—Frodsham, Kingsley, Antrobus, Appleton, Newton-by-Daresbury, Walton Inferior and Thelwall. The 12 deaths in 1895 compare unfavourably with 6 deaths in 1894 and 7 in 1893.

**Water-supply.**—The portions of Appleton known as Stockton Heath and Wilderspool have a good and plentiful supply from the Warrington Water Works, and the greater portion of the villages of Walton Superior and Moore are supplied from the same source. There has been a further extension of the mains over Moore canal bridge to the thatched Canal Cottages on the far side. The supply of a portion of Bartington is still defective, but the financial aspect of the question makes it difficult to propose a remedy. At Dutton water is still needed. The Medical Officer of Health again repeats his opinion that the water-supply at Dutton Workhouse would yield a satisfactory supply for all the houses there in need of it. Additional motive power has been provided for the pump at the

Workhouse, which would lessen, if not abolish, the difficulty hitherto experienced.

At Aston an extension of the Liverpool (Vyrnwy) mains has been made for the supply of five or six houses. It is to be regretted the new main was not carried on to Aston Heath, where water is needed. At Clifton the improved supply continues satisfactory. Halton, Weston Point and the village of Weston are supplied from the Runcorn Urban Authority's Water Works. The supply to "the Common" at Halton remains unsatisfactory. A complaint received as to the quality of the water supplied by Runcorn to the service reservoir at Halton, led to a sample being analysed from the Runcorn mains and another from the reservoir. The second alone proved unsatisfactory, and the service reservoir was thoroughly cleansed. No complaints have been received since. The village of Norton is supplied from the Liverpool Water Works, but the mains require to be extended. Some improvements have been effected during the year. Some recent improvements have also taken place in the supply to Weston, but not all that is needed has been done. At Sutton, where there have been difficulties in raising the water, it is proposed to get a supply from the Liverpool mains.

There is still need of an improved water-supply at Alvanley, but a local Water Company having been formed, a supply may be thus brought into this township. The scheme for supplying Frodsham has proved a success, and the extension referred to in the last Annual Report has been carried out. Most of the houses in the township are now connected. It is said that the water, which at first had considerable hardness, is becoming softer. Frodsham Lordship, being now definitely excluded from participation in the Frodsham water scheme, is endeavouring to provide a supply for itself. At Helsby a vigorous attempt is being made to provide a supply by private enterprise, but there is a disagreement between the District Council and the Water Company, owing to the charges for water proposed by the Company being in excess of the provisions of the Public Health Act, and other matters. At Kingsley some improvements have been carried out in the water-supply and further improvements are contemplated. The projected water scheme at Alvanley has now been carried out at the owner's expense. At Norley the supply to Blackmere Lane continues to be unsatisfactory. The Parish Council are considering the question of providing a general scheme for the township; but the houses being so scattered, the cost would be out of all reason.

**Sewers and Sewering.**—Nothing special calls for note—no large extension has been undertaken. By the proposed closing of the tidal openings on the Manchester Ship Canal, there is risk of serious interference with the sewer out-falls along the line of the Ship Canal. This matter should receive grave attention.

An attempt, at Frodsham Lordship, to extend the sewerage scheme up to Five Crosses, was made, but so far has not been carried out owing to expense.

**Refuse Removal.**—The Authority do not undertake the collection and disposal of excrement and refuse in any part of their district, except at Stockton Heath, and even here more regular and expeditious removal is desirable. Elsewhere the emptying of middens, removal of refuse, &c., is done by the occupiers or owners, or both in conjunction. They have to dispose of the stuff as best they can, and in many cases this is a matter of great difficulty. Under these circumstances no very satisfactory results can be expected.

The Weston Parish Council have endeavoured to meet the requirements of that township in the removal of midden-refuse, by providing sites in each Ward on which it may be deposited.

**Private Street Works Act.**—Stockton Heath, Appleton, continues to increase in size and importance as a residential neighbourhood, and further urban powers have been applied for and will no doubt be sanctioned, for street making, under the Private Street Works Act. Such powers are much to be desired in a semi-urban locality.

**Houses Unfit for Habitation.**—Some dilapidated cottages have been removed in the township of Preston-on-the Hill. Here also the road has been widened and several new cottages have been built.

The Inspector (Mr. Jas. Farrington) furnishes information as to matters coming under his supervision.

**Public Health (Water) Act, 1878.**—The number of certificates granted for the occupation of new houses, during 1895, was 18. The number of houses occupied under certificates was 31. The number of houses supplied from pumps and wells was 2. The number supplied from mains was 18, the number supplied with rain-water stored in tanks was 11. Three pumps were repaired. Sixty-four samples were taken and submitted for analysis. The Analyst's results and remarks are given.

**Nuisance Abatement.**—Sixteen nuisances were reported and many others were discovered. The number of formal notices served to abate nuisances was 105, and the abatement of many nuisances was obtained without service of formal notices. One smoke nuisance was abated.

In one instance legal proceedings were taken for a breach of the Building Bye-Laws, and a conviction obtained. In another instance legal proceedings were taken for damaging property belonging to the District Council.

**Canal Boats.**—The number of canal boats inspected during the year was 49.

**STOCKPORT.**  
**Rural District.**  
**Brinnington Sub-District.**

Medical Officers of Health—DR. H. G. SMEETH and DR. T. MOORE.

Population at Census, 1891—485.

Estimated population in middle of 1895—533.

Area in acres—645.

Birth-rate per 1000 living—9.3.

Death-rate per 1000 living—11.2.

Death-rate from seven principal Zymotic diseases—0.

Deaths under one year to 1000 births—200.

Dr. H. G. Smeeth was Medical Officer of Health for this Sub-District till the end of September, and was succeeded by Dr. T. Moore.

The whole Township of Brinnington has an area of 778 acres, and the population at the Census was 7061. Out of this, 133 acres, the census population of which was 6576, belong to the County Borough of Stockport.

In 1895, the number of births registered was 5, and the number of deaths registered was 6. One of those who died was an infant under one year old. There were no deaths from zymotic disease.

Only one case of infectious disease was notified—a case of scarlatina.

Nine nuisances were notified during the year—3 were abated without notice, in the case of the others formal notices had to be served.

A Parish Council came into existence during the year.

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**STOCKPORT.**  
**Rural District.**  
**Handforth Sub-District.**

Medical Officers of Health—DR. H. G. SMEETH and DR. T. MOORE.

Population at Census, 1891—794.

Estimated population in middle of 1895—817.

Area in acres—1311.

Birth-rate per 1000 living—44.0.

Death-rate per 1000 living—15.9.

Death-rate from seven principal Zymotic diseases—1.2.

Deaths under one year to 1000 births—55.

Dr. H. G. Smeeth was Medical Officer of Health of this Sub-District till the end of September, and was succeeded by Dr. T. Moore.

In 1895, the number of births registered was 36, and the number of deaths registered was 13. Of those who died only two were under one year old. There were two deaths from zymotic diseases—one being from scarlatina and one from erysipelas. Three deaths were due to bronchitis.

Seven cases of infectious disease were notified, viz.: 4 scarlatina, 2 erysipelas, and 1 puerperal fever. Three of the patients who suffered from scarlatina appear to have been infected by means of milk supplied from a house in which was a case of the disease.

The churchyard, the condition of which has been referred to in previous Reports, has been closed, and the question of other arrangements for interments is under consideration.

Eleven nuisances have been reported during the year. As regards 7, special notices had to be served requiring their abatement; the remaining 4 were abated without formal notices being served. The sewers have been cleansed and some house-drains have been repaired. Nine new houses have been erected and 2 have been added to.

A Parish Council came into existence during the year.

## STOCKPORT.

### Rural District.

#### Hazel Grove Sub-District.

Medical Officer of Health—DR. T. MOORE.

Population at Census, 1891—7868.

Estimated population in middle of 1895—8168.

Area in acres—6072.

Birth-rate per 1000 living—23.8.

Death-rate per 1000 living—16.2.

Death-rate from seven principal Zymotic diseases—0.6.

Deaths under one year to 1000 births—184.

The area for which Dr. Moore is Medical Officer of Health was increased during 1895 by the addition of the Townships of Brinnington and Handforth, but as the alteration only took effect from October 1st, Brinnington and Handforth have been reported on separately, as if they had remained separate Sub-Districts to the end of the year.

The old Sub-District of Hazel Grove comprises the Townships of Bosden, Norbury, Torkington, Offerton and part of the Township of Bramhall, together forming the drainage-area district of Hazel Grove, with the remaining portion of the Township of Bramhall, lying outside the drainage-area district.

The area and Census-population of the 5 Townships are as follows:—

			Area in Acres.		Population at Census.
Bosden	..	..	499	...	2342
Bramhall	...	...	2885	...	3365
Norbury	...	..	1249	...	1495
Torkington	...	...	823	..	294
Offerton	...	..	623	...	372

The estimated population in 1895, and the births and deaths during the year, as regards these Townships are as follows:—

		Population in middle of 1895.	Births.	Deaths.
Bosden	...	2468	62	39
Bramhall	...	3465	79	64
Norbury	...	1551	41	22
Torkington	...	298	6	4
Offerton	...	386	7	4

The number of births in the Sub-District was therefore 195, and the number of deaths 133.

The proportion of deaths due to zymotic diseases is small. There was one death due to membranous croup and one to whooping-cough; there were 2 deaths due to puerperal fever, and 3 due to diarrhoea.

**Infectious Disease.**—The number of cases of infectious disease notified was 25, viz.:—6 scarlatina, 3 diphtheria, 2 membranous croup, 9 typhoid fever, 1 continued fever, 2 puerperal fever and 2 erysipelas.

**Typhoid Fever.**—Of the 9 cases of this disease notified, 3 occurred in Davenport, Bramhall, and appeared to be due to defective drainage, which was at once put right.

**Measles** was prevalent in a mild form, more particularly in Offerton, where it was found necessary to close the school for a period.

**Whooping-cough** prevailed somewhat in the latter part of the year, and was the cause of one death. The Medical Officer of Health observes that this disease does not receive the attention it deserves. If more care were bestowed on the disease in the early stages and the patients properly isolated, whooping-cough would certainly not spread to the extent it now does.

**Influenza** was again prevalent during the early months of the year, and was followed by pulmonary affections. As the weather improved the influenza generally passed away.

**Dairies, Cowsheds, and Milk-shops.**—The Medical Officer of Health recommends the District Council to make regulations, as they are empowered to do under the Dairies, Cowsheds, and Milk-shops Order. All matters relating to the milk-supply of a district are most important, and without exact

regulations it is not possible to have cows, dairy premises, milk and milk vessels kept cleanly and in order.

**Sewering and Water-supply of Bramhall.**—A comprehensive scheme for the drainage of Bramhall has been decided upon, which when completed must add to the healthiness of this part of the district. During the year a well was closed at Bramhall. As the population increases many more will require closing—it is almost impossible to prevent fouling of such sources of supply.

**Misuse of Ashpits.**—The Medical Officer of Health draws attention to the practice of throwing slops and vegetable refuse into dry ashpits. He points out that this inevitably causes a nuisance. The slops should be discharged into the drains, and vegetable refuse should be burned.

**Emptying of Ashpits.**—The systematic emptying of ashpits by the Authority has proved a great improvement on the old method—leaving them to be emptied by farmers and others irregularly. The Inspector reports that during the year 997 emptyings were effected at a cost of £129 19s. 6d.

**Street Defects.**—Some of the streets in Bosden are in a very unsatisfactory condition—the defects being obvious in wet weather.

In the village of Hazel Grove the gas supplied is not satisfactory—complaints being frequent that the illuminating power is very deficient.

**Parish Councils.**—During the year a Parish Council has been established in each of the five Townships. These Councils have done useful work and directed attention to many matters affecting the welfare of the public.

**Superficial Interment at Norbury.**—A case of burying a body too near the surface, in Norbury churchyard, was reported, and on instructions received from the Home Office was remedied. It is important that no interment should be allowed where there is less than three feet of earth above the coffin.

**Systematic Inspections** are made by both the Medical Officer of Health and the Inspector.

No offensive trades are carried on in the district.

**Report of Surveyor and Inspector.**—In all 196 nuisances were entered in the report-book and investigated. Formal notices were served in respect of 70, and 59 were abated without formal notice. Seventeen house-drains were repaired, 12 buildings and yards were repaired, 16 ditches were cleansed, in 2 ditches pipes were laid down, 12 privies and ashpits were repaired, 10 defective water-supplies were made good, and 2 dwelling-houses unfit for human habitation were condemned.

There were 100 yards of sewers laid, 5 ventilating shafts built, and 2 automatic flushing-chambers constructed.

Sixty-three new houses were erected and 13 warehouses, &c. Fourteen additions to houses were completed. Twenty-nine new street-lamps were provided.

## STOCKPORT.

### Rural District.

#### South Werneth Sub-District.

Medical Officer of Health—DR. F. CANT.

Population at Census, 1891—1012.

Estimated population in middle of 1895—1012.

Area in acres—909.

Birth-rate per 1000 living—22.7.

Death-rate per 1000 living—10.8.

Death-rate from seven principal Zymotic diseases—0.

Deaths under one year to 1000 births—0.

This Sub-District is part of the Township of Werneth, the remainder being in the Borough of Hyde. It includes Compstall, with a manufacturing population of about 960, living on about 120 acres. The rest of the population is agricultural.

The population is estimated to be the same as at the Census; the natural increase by excess of births over deaths being compensated for by a lessened adult population owing to demolition of cottages in King Street.

The number of births registered in 1895 was 23, and the number of deaths registered in 1895 was 11. There were no deaths of persons under 17 years of age, and there were no deaths from zymotic disease. The death-rate is exceptionally low. One death was from phthisis, 2 were from bronchitis, and 2 from heart disease.

There were only 6 cases of infectious diseases notified, viz.: 5 scarlatina and 1 diphtheria. These were treated at home. The Medical Officer of Health visited every case, and gave directions as to isolation, disinfection, &c.

Several inspections of the district have been made by the Medical Officer of Health, and the district is visited periodically by the Inspector. The Inspector reports that he has only required to serve one notice for the abatement of nuisance, and that has been attended to. The farms and cowsheds in the district are in satisfactory condition.

The water-supply has been satisfactory. Both the reservoirs were emptied and limed in the summer, and they were cleared of weeds whenever necessary. The water-trough near Yew-tree Cottages has been removed, and the water carried in pipes to each of the cottages.

The ash pits are emptied regularly by the property owners. There have been no reports of neglect in this matter.

The cottages forming one side of King Street are being removed. This will effect a decided sanitary improvement.

## TARVIN.

### Rural District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census 1891—12436.

Estimated population in middle of 1895—12432.

Area in acres—45457.

Birth-rate per 1000 living—25·5.

Death-rate per 1000 living—15·3.

Death-rate from seven principal Zymotic diseases—0·7.

Deaths under one year to 1000 births—119.

This large Rural District is not divided into sub-districts, but it includes no less than 56 townships. These are as follows:—Broxton, Tilston, Horton, Grafton, Carden, Stretton, Caldecott, Crewe, Farndon, Churton-by-Farndon, Barton, Clutton, Kingsmarsh, Coddington, Chowley, Aldersley, Harthill, Edgerley, Churton-by-Aldford, Aldford, Burton, Lea Newbold, Churton Heath, Saighton, Iddinshall, Waverton, Huxley, Hatton, Tattenhall, Golborne Bellow, Newton-by-Tattenhall, Handley, Golborne David, Foulk Stapleford, Bruen Stapleford, Burton, Clutton Hoofield, Dutton, Willington, Kelsall, Ashton, Mouldsworth, Horton-with-Peele, Tarvin, Hockenhull, Pryors Hayes, Barrow, Guilden Sutton, Cotton Edmunds, Cotton Abbotts, Rowton, Huntington, Tiverton, Tilston Fearnall, Beeston, and Burwardsley.

There has been transferred to this District the enumerated population of the Tarvin Union Workhouse, situated at Great Boughton in the Chester Rural District.

In 1895, the number of births registered in the whole district was 318, and the number of deaths (including 5 occurring outside the district but belonging thereto and excluding 2 occurring within the district but not belonging thereto) was 191. The birth-rate is 2 below the mean birth-rate in 1892-94 and the death-rate is 0·5 below the mean death-rate in 1892-94.

There were 9 deaths from the chief zymotic diseases, viz.: 2 diphtheria, 1 croup, 1 measles, 1 whooping-cough and 4 diarrhoea. There were also 16 deaths from phthisis, 23 from bronchitis or pneumonia, 13 from heart disease, 8 from influenza, and 10 from injuries.

**Cases of Infectious Disease Notified.**—There were in all 106 cases of infectious diseases notified, viz.: 75 scarlatina, 22 diphtheria, 1 membranous croup, 3 typhoid fever and 5

erysipelas. Of these 2 scarlatina cases and 1 case of diphtheria were removed to the Fever Hospital at the Chester Infirmary. As usual nearly all the cases occurred on the north-east side of the Chester and Crewe Railway, at Kelsall and Tarvin and the adjoining townships.

The Medical Officer of Health acknowledges the courtesy of medical practitioners in responding to the supplementary questions on the notification forms, and in doing what they can to prevent the spread of infection.

No doubt notification and the care taken to isolate patients as much as possible are useful in checking the spread of infection, still the number of cases is much larger than the number of households attacked. In some instances where many in a family suffered, they were attacked nearly at the same time or in quick succession.

Each household was visited, and disinfection was attended to. Where required, action was taken for the remedy of structural defects on premises. There was no suspicion that any of the infectious disease occurring was spread by means of water, milk or other article of food.

The School at Ashton was closed by the managers for a short time as a precautionary measure, under circumstances suggesting the propriety of so doing.

**Measles** prevailed from time to time in different parts of the district. Cases not being notifiable the extent of the disease is unknown. Owing to the prevalence of measles schools were closed at Farndon and Aldford with the concurrence of the Medical Officer of Health.

The Medical Officer of Health visited the district frequently, for the investigation of cases of infectious disease and general inspection.

**Retirement of Inspector.**—Mr. Clarke who has with credit filled the office of Inspector of Nuisances for twenty years has been pensioned off, and the duties of his office have been divided between the two newly appointed surveyors of highways, an arrangement which is admirably adapted to the requirements of the widely extended district.

The new Inspectors entered upon their duties in April, and have shown interest and energy in their work. They have reported sanitary defects on 291 premises, and for the remedy of these, notices have been duly served. The terms of the notices have been complied with in greater part. There have been few complaints of overcrowding.

**Dairies, &c.**—Premises registered for the sale of milk have been inspected.

**Water-supply.**—Four new wells have been sunk during the year, and several have been cleansed. Eleven samples of water were submitted for analysis and analysed by the Medical Officer of Health. Six were found to be largely contaminated

and 2 contaminated to some extent. In these cases action was taken to remove the sources of contamination, or instructions were given to discontinue the use of the water or (where that was impossible) to boil it.

**Sewers.**—The district being thinly populated, and not having many large villages, there are few sewers and water-closets are comparatively rare. The sewers at Tattenhall were flushed during the long continued dry weather.

**Scheme for Outfall Works.**—An excellent scheme has been devised and plans prepared by Mr. Hughes for dealing with the Tattenhall sewage at the outfall. A sub-committee has the matter in hand, and plans have been sent to the Local Government Board for approval.

**Ashpits, &c.**—Throughout the district most of the houses are provided with ashpits and privies. These, in some instances, are emptied at short intervals. the contents being used on adjoining land, but generally the emptying awaits the convenience of neighbouring farmers. The District Council have aimed at getting the privies modified so as to approximate as much as possible to earth-closets, and much has been done in this direction.

## TINTWISTLE.

### Rural District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1891—2576.

Estimated population in middle of 1895—2630.

Area in acres—13615.

Birth-rate per 1000 living—27.7.

Death-rate per 1000 living—12.9.

Death-rate from seven principal Zymotic diseases—0.7.

Deaths under one year to 1000 births—82.

This Rural District contains part of the Township of Tintwistle, and the whole of the Townships of Hattersley and Matley. The area and population as enumerated at the Census are given as follow:—

		Area in Acres.		Population at Census.
Part of Tintwistle	...	11850	...	2116
Hattersley	...	1060	...	286
Matley	...	705	...	174

The area exclusive of moorland is returned as 4646 acres.

In 1895, the number of births registered was 73, and the number of deaths registered was 34. The birth-rate was 1.9 above the mean birth-rate in 1892-94, and the death-rate was 4.9 below the mean death-rate in 1892-94. Only 6 of those who died were under one year old.

Two deaths were due to zymotic disease, viz.: diarrhoea. There were also 4 deaths due to phthisis, 4 to bronchitis or pneumonia, and 8 to heart disease.

**Infectious Disease Notified.**—The only cases of infectious diseases notified were a case of scarlatina and a case of typhoid fever.

The case of scarlatina occurred in September at a farm at Hattersley. The patient contracted the disease in his capacity as milk-seller with his father at Hyde, where scarlatina was very prevalent at the time. He was immediately isolated, and arrangements made to take the milk direct from the cows to another house some distance away, where (after changing his clothes) the father remained till the infectious period had passed. The house was afterwards thoroughly disinfected and no further case occurred.

The case of typhoid fever was reported in July. The patient was a young man (a joiner) employed at Mottram. Feeling unable to follow his work he came to Tintwistle to stay with friends, but as the disease developed he was unable to return. No insanitary conditions could be discovered on the premises where he worked or lodged; but as their work takes joiners into a variety of places, he probably contracted the disease away from home.

In all cases where infectious disease occurs, the premises are examined, and where defects are found owners are served with notices to remedy the same. Patients are isolated as far as possible at home and clothes and bedding disinfected. Disinfectants are supplied gratuitously to all applicants. Healthy children residing in infected houses are prohibited from attending school or playing with other children until all possibility of their being able to infect others is past.

**Water-supply and Milk.**—The water-supply has been abundant and good throughout the year. There are no milk-shops in the district, the milk being supplied from farms outside.

**Inspection.**—Periodical inspections of the district have been made by the Medical Officer of Health and Inspector, and where insanitary conditions have been observed the owners have been required to remove them. Slaughter-houses have been duly inspected, and have been found, on the whole, well kept.

There are no common lodging-houses, and there are no offensive trades carried on in the district.

**Nuisance Abatement.**—Some property in Manchester Road rendered damp from surface water lodging in the cellars has been efficiently drained. At the Beehive Inn, also, a new drain has been constructed to divert the sewage from a well it had been polluting. Water in the trough near the Manchester Corporation Offices was being polluted by sewage from a block of houses on the higher road. Here too a new drain has been

constructed. A large manure pit, near the British Schools, has been removed further away. Some dilapidated closets and filthy ashpits at Newton Square, have been rebuilt and the ashpits covered in. Additional closet accommodation has been built at Mount Pleasant, where the accommodation was insufficient. The work of providing additional closets at Long Row is still in abeyance, owing to the land behind the property belonging to another owner. The owner's agent has promised that what is needed shall be provided as early as possible.

The usual routine of emptying ashpits, clearing of choked drains, removing accumulations of refuse, &c., has had attention.

## WIRRAL.

### Rural District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1891—18,707.

Estimated population in middle of 1895—16,473.

Area in acres—38,608.

Birth-rate per 1000 living—25·2.

Death-rate per 1000 living—15·0.

Death-rate from seven principal Zymotic diseases—2·7.

Deaths under one year to 1000 births—125.

This district has for registration purposes been divided into four sub-districts, viz :—Neston, Eastham, Bebington and Woodchurch. Till quite recently the district had but three sub-districts, Brimstage, Poulton-cum-Spital and Storeton (now constituting the sub-district of Bebington), being part of the sub-district of Eastham. Keeping to the old arrangement the sub-districts are as follows :—

1. Neston, having an area of 12668 acres, and an estimated population of 3665. It includes Puddington, Burton, Ledsham, Willaston, Ness, Raby, Thornton Hough, Gayton and Heswall-with-Oldfield.
2. Eastham, having an area of 11287 acres, and an estimated population of 8558. It includes Great Sutton, Little Sutton, Whitby, Overpool, Netherpool, Childer Thornton, Hooton, Eastham, Brimstage, Poulton-cum-Spital and Storeton.
3. Woodchurch, having an area of 12610 acres, and an estimated population of 3750. It includes Prenton, Woodchurch, Landican, Thingwall, Barnston, Pensby, Irby, Arrow, Thurstanston, Caldy, Frankby, Greasby, Grange(part of), Upton, Saughall Massie, and Moreton.

To the Rural District, as thus constituted, must now be added what has been till lately the Rural District of Birkenhead. This consists of Bidston-with-Ford, having an area of 1713 acres,

and Noctorum, having an area of 330 acres. The population of the Birkenhead Rural District at the Census was 456 and the estimated population for 1894 is 500.

It will be noted that the estimated population of the Wirral Rural District is much below the population recorded at the time of the Census. This is due to the fact that among those enumerated at Whitby, Netherpool, Hooton and Eastham, were 2432 persons engaged in the construction of the Manchester Ship Canal. These formed no part of the local population after 1892.

The birth-rates of the 3 sub-districts, in 1895, were respectively 25.6, 24.5 and 28.0. The death-rates of the 3 sub-districts, in 1895, were respectively 19.3, 14.1 and 14.6. As there were 7 births and 1 death in the Birkenhead Rural District, the birth-rate was 14 per 1000 and the death-rate exactly 2.

The births registered in the whole Wirral Rural District numbered 416. The deaths registered in the whole Wirral Rural District (excluding 29 deaths occurring within the district among persons not belonging thereto) numbered 247.

There were 45 deaths from the principal zymotic diseases, viz.: 9 scarlatina, 2 diphtheria, 1 croup, 4 typhoid fever, 4 measles, 16 whooping-cough, and 9 diarrhoea. There were 5 deaths from influenza, a death from puerperal fever, and 1 from erysipelas. There were also 21 deaths from phthisis, 41 from bronchitis or pneumonia, 15 from heart disease, and 9 from injuries.

**Infectious Diseases Notified.**—Under the Infectious Disease Notification Act there were reported 260 cases, viz.: 237 scarlatina, 6 diphtheria, 1 croup, 10 typhoid fever, and 6 erysipelas. Of these 10 cases of scarlatina and 1 case of typhoid fever were removed to hospital. The houses where the cases occurred were all visited. Removal to hospital was offered and even pressed where the circumstances appeared to render this necessary, action was taken for disinfection, for remedying any insanitary conditions discovered and for preventing attendance at schools of children from infected houses. In each household inquiry was also made as to the milk-supply.

**Scarlatina.**—Of the 237 cases of this disease notified, 125 were at Ellesmere Port. Many of the cases were exceedingly slight and in some instances the disease ran through the entire family. Of the whole number attacked 92 were under 5 years of age. The mildness of the disease and the tender age of many of those attacked, especially at the commencement of the outbreak, seemed to increase the unwillingness of parents to allow the removal of patients to hospital. The proportion removed (4.2 per cent.) is certainly very small. The disease prevailed from June to November, but there was at no time such a spread of the disease at any particular place as to necessitate the closing of a school.

The Medical Officer of Health visited the district frequently, making general and special inspections and investigating outbreaks of disease.

**Spital Boundary Brook.**—The nuisance occasioned by the pollution of this brook (referred to in the last Annual Report) has been abated. The District Council did the required work at a cost of £150, and this sum was repaid by the owners of the two large houses responsible for the pollution of the brook. A pipe drain of about 500 yards in length has been constructed “to convey the effluent from the filter tanks, and the brook water, to an arm of the estuary of the Mersey.” The payment made does not include any sum as compensation for traversing the land. For this the owner demands £100, and the District Council consider £5 sufficient.

**Outfall at Eastham.**—A special Sub-Committee met the Parish Council at Eastham with the object of devising improvements in regard to the sewer outfall there, the lease of the land on which the tank is situated being about to expire. Plans were ordered by the District Council, at the request of the Parish Council, and prepared by Mr. Priest, for extending the outfall to a culvert already in existence near the shore. The cost of carrying out this scheme was however considered to be too great, and arrangements were accordingly made for a renewal of the lease, which will permit a continuance of the present arrangement.

Sub-Committees have also met at Raby, Hooton and Childer Thornton, and have thereby assisted in settling procedure as to less formidable difficulties in regard to drainage, &c.

**Building Bye-laws.**—These are or will be shortly in force throughout the district. Messrs. Beloe & Priest are engaged to examine the plans of proposed buildings, on behalf of the District Council.

**Water-supply.**—The district is generally supplied with water from the Wirral Water Works. Bidston-with-Ford and Noctorum are supplied from the Birkenhead Water Works.

During the year 2 samples of water from wells in use were submitted to the Medical Officer of Health for analysis. Both proved to be contaminated and action was taken to obtain for the houses thus supplied, a supply from the mains.

**Sewer Flushing.**—The sewers at Eastham, Heswall, and Ellesmere Port are flushed regularly. The sewers at Upton are flushed when required.

**Scheme for Drainage of the Fender Valley.**—A Bill seeking powers to carry out a scheme for the drainage of the Fender Valley, promoted by certain private persons, was introduced to Parliament last Session, and successfully opposed by the District Council. A scheme, having the same object, is now being prepared under the direction of the Council, by

Messrs. Beloe and Priest. This, with the co-operation of the landowners and Birkenhead Corporation, may in course of time be carried out. The new railway from the Dee Bridge to Bidston, shortly to be opened, will tend to increase building operations in the Fender Valley.

**Refuse Removal.**—The District Council continue to contract for the removal of privy and ashpit refuse at Ellesmere Port, Little Sutton and Childer Thornton. They have been advised to do this also at Heswall and Upton.

**Inspectors' Reports.**—Mr. Wallis, the Inspector for the greater part of the district, is very attentive to his duties, which in addition to the more ordinary work, include the inspection of new houses, to see that they conform to the requirements of the building bye-laws, the care of the sewers and the flushing thereof, and the supervision of the contractors for the removal of ashpit refuse. Mr. Wallis reports that he specially inspected 1485 houses, and served 207 notices, which resulted in 154 houses being cleansed, repaired, and whitewashed, 150 being disinfected after infectious disease, 31 house-drains being repaired, cleansed, &c., and in 14 house-drains being trapped and ventilated. He reports also that 12 houses were newly supplied with water, 2 wells were cleaned out, 21 privies were cleaned and repaired, 6 new ones were provided, 10 accumulations of refuse were removed, and 4 animals improperly kept were removed.

Mr. Carter continues to act as Inspector of Bidston-with-Ford and Noctorum, and maintains a vigilant supervision over these townships. He reports that he specially inspected 180 houses and served 12 notices. He obtained the cleansing and whitewashing of 40 houses, and disinfected one house. He obtained a water-supply for 3 houses, had 12 house-drains repaired and cleansed and 2 trapped and ventilated. Thirty privies were repaired and cleansed, 3 new privies were provided, 2 cisterns were cleansed, 20 accumulations of refuse were removed, and one animal improperly kept was removed.

**Dairies, &c.**—Mr. Wallis has under inspection 228 dairies and cowsheds, and Mr. Carter has under his inspection 27 dairies and cowsheds. These are visited from time to time to see that they are kept cleanly and in order.

**Canal Boats.**—During the year Mr. Wallis inspected 187 canal boats.

**The Wirral Joint Hospitals** were made use of during the year by all the districts forming the Joint Hospital District. In all there were isolated and treated 108 cases of scarlatina, 2 cases of diphtheria, and 17 cases of typhoid fever. Four of the scarlatina cases and 3 of the typhoid fever cases terminated fatally.

A Parish Council has taken the place of the Parochial Committee at Ellesmere Port, referred to in the last Annual Report.

## WREXHAM.

### Part of Rural District in Cheshire.

Medical Officer of Health—DR. E. DAVIES and DR. W. JONES.

Population at Census, 1891—522.

Estimated population in middle of 1895—522.

Area in acres—2478.

Birth-rate per 1000 living—15.3.

Death-rate per 1000 living—3.8.

Death-rate from seven principal Zymotic diseases---0.

Deaths under one year to 1000 births—0.

The portion of this Rural District in Cheshire includes the parishes of Shocklach Church and Shocklach Oviatt, and part of the parish of Threapwood. The area and population, as given in the Census Report, are as follows :—

	Area in Acres.	Population at Census.
Shocklach Church... ... ...	1278	158
Shocklach Oviatt (including Shock- lach Green) .. ... ...	1048 ..	158
Part of Threapwood ... ... ...	152 ...	206

In Shocklach Church there were 5 births and no deaths. In Shocklach Oviatt there were 3 births and there was one death. In the Cheshire portion of Threapwood there were no births and there was one death. Thus in 1895 the whole number of births was 8 and the whole number of deaths was 2. The cause of the death at Shocklach Oviatt was cancer, and the cause of the death at Threapwood was puerperal septicæmia.

No cases of infectious disease were notified.

Dr. E. Davies is Medical Officer of Health for the Northern Division of the district, containing Shocklach Church and Shocklach Oviatt. Dr. W. Jones is Medical Officer of Health for the Southern Division of the district, containing Threapwood.

The townships of Shocklach Church and Shocklach Oviatt were transferred to the Tarvin Rural District Council on September 30th. The Cheshire portion of Threapwood was till the end of the year under the administration of the Wrexham Rural District Council. A Provisional Order has been applied for, and a draft of the Order has been prepared by the Local Government Board, transferring the Flintshire portion of the Parish of Threapwood from the Administrative County of Flint to the Administrative County of Chester, and including the whole of such Parish in the Whitchurch Poor Law Union and Malpas Rural District.



# Administrative County of Chester.

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## APPENDIX OF STATISTICS.

FOR 1895.

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### TABLE I.—Population, Area, Births, Deaths, &c.—

Showing enumerated and estimated population, area, persons per acre, births and deaths, birth-rates and death-rates, deaths at various ages, proportion of deaths of infants to births, deaths from seven principal zymotic diseases, and corresponding death-rates.

### TABLE II.—Mortality—

Showing deaths from certain causes and all causes, classified according to Localities, Ages, and Diseases.

### TABLE III.—Infectious Sickness.—

Showing new cases notified, and new cases removed to Hospital, classified according to Localities, Ages, and Diseases ; and giving particulars as to compulsory notification of Infectious Diseases and Hospital Provision.

NOTE.—The information in these three Tables is derived from the Returns made by the district Medical Officers of Health on Forms **A** and **B**, supplied to them by the Local Government Board. The proportion of persons per acre, the birth-rates and death-rates, proportion of deaths of infants to births, the deaths from the seven principal zymotic diseases and corresponding death-rates, have been added. The population in 1891 and the areas are from the official Census returns.

TABLE I.—POPULATION, AREA, BIRTHS, DEATHS, &C.

Showing enumerated and estimated population, area, persons per acre, births and deaths, birth-rates and death-rates, deaths at various ages, proportion of deaths of infants to births, deaths from 7 principal zymotic diseases, & corresponding death-rates.

SANITARY DISTRICTS.	Population at Census, 1891	Estimated Population at mid-year of 1895	Area in Acres.	Persons to an Acre.	Births.	Birth-rate per 1000 Living.	Deaths.	Death-rate per 1000 Living.	Deaths from All Causes at subjoined Ages.						Deaths from seven principal Zymotic Diseases.	Principal Zymotic Diseases Death-rate.	
									under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 55	65 and up wards.			
<b>MUNICIPAL BOROUGHS.</b>																	
Congleton	10744	10744	2572	4·17	305	23·8	245	22·8	48	31	7	12	59	78	157	23	2·1
Crewe	32733	37020	2193	15·88	1237	33·4	522	16·8	198	90	82	81	106	155	150	93	2·5
Hyde	30670	31695	3074	10·30	955	30·1	738	23·2	229	102	25	25	254	207	217	134	3·7
Macclesfield	36509	36009	3215	11·20	917	25·4	813	22·5	199	100	25	25	176	144	247	118	4·2
Stalybridge	26783	27722	3185	8·64	761	27·4	655	23·9	188	109	23	25	176	144	247	118	4·2
	136089	143191	14189	10·09	4175	29·1	5083	21·5	862	432	112	127	668	682	206	448	3·1
<b>OTHER URBAN DISTRICTS.</b>																	
Alderley Edge	9270	9270	589	3·85	55	24·2	23	9·7	3	2	1	1	6	10	54	4	1·7
Alsager	1912	2350	2241	1·04	54	22·9	83	14·0	11	1	3	10	5	203	5	2·1	
Altrincham	12440	13053	652	19·71	404	30·9	254	19·4	71	22	9	13	55	73	175	37	2·8
Ashton-upon-Mersey	4234	5000	1622	3·08	127	25·4	59	18·8	17	3	4	20	23	189	8	1·6	
Higher Bebington	1421	1535	599	2·19	90	25·4	14	9·1	1	3	1	1	4	25	1	0·6	
Lower Bebington	5216	5529	1054	5·24	201	38·3	105	18·9	25	11	7	7	31	23	129	17	3·0
Bollington	3913	3913	494	7·92	85	21·7	78	19·9	14	13	2	3	23	164	8	2·0	
Bowdon	2792	2840	850	3·34	40	14·0	38	11·8	5	2	...	17	9	125	2	0·7	
Bredbury and Romiley—																	
Bredbury	3901	4000	2535	1·57	126	81·5	78	17·0	20	15	3	1	20	19	159	17	4·2
Romiley	1929	2009	1189	1·83	65	89·3	31	15·4	10	7	1	1	7	5	154	3	1·4
Bromborough	1662	1826	1616	1·13	90	16·4	20	10·9	2	1	2	...	11	5	66	2	1·1
Broughton	1382	1382	2911	0·47	41	29·5	26	18·8	8	4	...	9	5	135	6	4·3	
Cheadle and Gatley	7782	8262	5812	1·42	207	25·0	125	15·1	20	18	8	2	37	40	95	18	2·1
Dukinfield	17408	18700	1412	13·24	648	20·3	386	20·5	128	52	10	13	118	55	233	42	3·2
Hollinworth	2895	2895	2065	1·98	85	29·7	48	14·8	14	3	3	14	9	162	6	2·0	
Hoole	8320	8320	881	10·05	117	35·1	47	14·1	19	7	1	2	14	10	111	8	2·4
Hoylake and West Kirby—																	
Hoylake	4076	4880	1514	3·22	185	23·5	60	12·3	24	2	2	2	17	13	162	8	1·5
West Kirby	2409	2935	505	5·81	153	32·6	55	14·7	15	4	1	5	25	14	92	2	0·4
Knutsford	4043	4993	1760	2·83	153	21·4	86	15·1	17	5	3	1	38	21	139	7	1·2
Lymm	4995	5638	4875	1·39	122	21·4	90	13·8	11	4	...	23	80	95	4	0·8	
Marple	4544	5000	3053	1·53	115	23·0	69	20·8	82	15	5	5	23	18	185	14	2·9
Middlewich	4001	4750	1095	4·83	172	35·2	99	15·2	12	6	5	5	15	12	121	5	1·5
Motttram	8270	3270	1084	3·01	99	80·2	50	10·5	38	14	6	1	40	30	141	4	0·5
Nantwich	7412	7500	703	10·56	233	31·0	124	10·5	35	12	5	1	21	21	225	18	3·5
Neston and Parkgate	3577	3653	3260	1·12	155	42·4	95	26·0	35	12	5	1	45	45	198	47	2·7
Northwich	14014	17400	1388	12·53	697	40·6	371	21·3	138	59	17	16	105	10	85	55	209
Runcorn	20050	18500	1170	15·59	505	82·7	402	21·7	127	105	19	16	9	2	43	42	174
Sale	9544	11200	2005	5·58	252	22·5	155	13·9	44	16	5	4	25	15	135	9	1·4
Sandbach	5834	6249	2694	2·91	170	27·2	87	13·9	23	14	7	1	24	11	146	3	1·1
Tarporley	2702	2717	6194	0·43	75	27·5	54	19·8	11	7	1	...					
Wallasey																	
Poulton-cum-Seacombe	14829	17400	830	20·06	557	82·6	315	18·1	162	63	21	32	228	98	146	32	1·8
Liscard	15323	19150	982	19·50	450	24·0	255	13·3	162	63	21	32	76	56	20	5	2·0
Wallasey	2067	2450	1506	1·53	77	31·4	33	13·4	14	7	5	8	39	24	56	5	0·7
Wilmslow	5344	6033	5103	1·29	183	27·5	95	14·3	14	83	7	18	53	45	166	30	2·8
Winsford	10430	11294	5780	1·95	408	95·1	219	19·3	63	21	7	3	1	3	5	166	2·1
Yearsley-cum-Whaley	1235	1235	1323	0·98	42	94·0	21	17·0	7	2	...	...	...	...	...	...	...
Convalescent Hospital & Royal Asylum, Cheadle	470	491	...	...	...	...	15	...	...	...	...	...	2	10	1	...	...
Chester Union Workhouse, Hoole (less proportion not belonging to County)	563	550	...	...	18	...	7	...	...	...	...	4	3	...	...	...	...
	210179	236930	72528	3·26	7018	29·6	4094	17·2	1142	544	188	159	1226	855	162	524	2·2
<b>RURAL DISTRICTS.</b>																	
Bucklow—Altrincham	8880	9101	3143	0·72	230	24·8	133	14·5	31	12	6	7	45	97	184	9	0·9
Lymm	9590	3452	14497	0·21	76	22·0	37	10·7	9	1	1	1	9	15	118	1	0·2
Knutsford	3861	3681	20810	0·17	85	23·5	53	14·2	7	8	5	3	13	16	81	3	0·8
Wilmot	4437	4568	10475	0·44	104	22·7	95	21·0	19	9	1	3	28	36	162	4	0·8
Chester	10050	9418	53577	0·26	245	26·0	112	11·9	26	10	5	4	27	40	106	8	0·0
Cletoneton—Churcho Hulme	3690	3000	14912	0·20	87	29·0	47	13·6	5	3	1	1	4	15	21	57	0
Cletoneton—Congleton	1131	1131	7855	0·14	82	28·2	22	19·4	5	3	2	2	5	7	166	0	0
Sandbach	8374	8869	17367	0·51	278	31·3	140	15·7	40	13	4	6	86	41	143	19	1·4
Dialy	2250	2300	2464	0·93	61	26·5	29	12·6	6	1	1	1	13	8	98	0	0·6
Drayton—Tittensor	34	87	581	0·06	2	54·0	2	21·6	12	3	5	2	27	25	163	9	2·9
Macolesfield—Alderley	2055	3029	13592	0·22	83	27·4	72	23·8	11	4	2	2	26	19	145	3	1·0
Bollington	2216	2988	7814	0·36	75	25·9	54	22·1	11	1	2	2	16	18	62	27	0·7
Gawsworth	2672	2729	17983	0·15	64	23·4	43	15·7	4	2	2	2	23	31	81	14	0·2
Rostbury	4059	6052	13667	0·86	124	24·5	145	18·2	12	5	8	3	17	14	65	1	0·4
Rainbow	2097	2133	14274	0·14	45	21·5	40	13·7	3	2	2	2	8	12	39	3	0·7
Sutton	1780	1813	12954	0·13	38	20·9	26	14·3	4	6	1	1	18	37	139	7	0·6
Malpas—Crewe	4318	4320	21160	0·20	101	23·3	70	16·2	4	13	5	7	43	52	92	2	0·5
Nantwich	5538	5538	21300	0·16	83	23·4	149	13·4	29	3	3	3	18	163	22	0·6	
Bunbury	3105	3105	15845	0·19	91	20·6	55	17·7	13	2	2	2	14	22	138	1	0·2
Wrenbury	5597	5597	30168	0·18	145	25·0	67	11·9	14	2	3	3	21	27	98	1	0·5
Northwich—Weaverham	8060	8618	18000	0·47	234	23·6	163	18·9	40	11	18	10	42	44	140	5	0·5
Northwich—Over	7081	8552	10391	0·76	252	23·7	143	17·1	48	21	10	1	30	35	134	11	1·8
Over	8083	8083	12472	0·24	93	32·3	37	13·7	8	4	1	1	10	12	82	2	0·7
Middlewich	2699	2699	12938	0·20	254	22·6	182	16·2	48	25	18	7	47	49	180	20	1·7
Runcorn—Budworth	10520	11211	24559	0·45	138	24·8	81	14·5	25	17	8	4	18	14	181	14	2·5
Runcorn	5373	5558	0034	0·81	259	26·5	125	18·4	32	10	1	4	30	42	123	12	1·3
Frodsham	8763	9283	15272	0·39	5	9·8	6	11·2	1	2	2	1	3	2	200	0	0·0
Stockport—Bromborough	485	533	645	0·93	36	44·0	13	15·9	2	2	1	1	3	5	55	5	0·6
Handforth	794	817	1811	1·62	36	44·0	13	15·9	2	2	1	1	3	4	24	53	184
Hazel Grove	7863	8168	6072	1·34	23	22·7	11	10·8	...	...	...	...	...	...	0	0	0·0
South Werneth	1012	1012	909	1·11	23	22·7	11	10·8	...	...	...	...	...	...	0	0	0·7
Tarvin	12436	12432	54547	0·23													



TABLE II.—MORTALITY.

Showing deaths from subjoined causes during the year ending December 31st, 1895, classified according to Localities, Ages and Diseases.



TABLE III.—INFECTIOUS SICKNESS.

New cases coming to the knowledge of the Medical Officer of Health in each Locality.												Number of such cases removed from their homes for treatment in Hospital.															
SANITARY DISTRICTS.		AGES.		FEVERS.						FEVERS.						Is COMPULSORY NOTIFICATION ACT ADOPTED?											
Municipal Boroughs.				Small-pox.	Scarlatina.	Diphtheria.	Membranous	Typhus.	Exanthem or Typhoid.	Continued.	Relapsing.	Puerperal.	Erysipels.	TOTAL.	Small-pox.	Scarlatina.	Diphtheria.	Membranous	Typhus.	Exanthem or Typhoid.	Continued.	Relapsing.	Puerperal.	Erysipels.	TOTAL.	Is Hospital for Infectious Diseases provided?	
Congleton		Under 5	30	4										37												No	
Crewe		5 upwards	44	2										49												Four Cottages provided for Small-pox	
Hyde		Under 5	115	1										117												No	
Macclesfield		5 upwards	233											247												Detached house provided for Small-pox	
Stalybridge		Under 5	1	16	6			9	12-63					1	117											Yes	
		5 upwards	452	6				35						3	247											Temporary "Duerker" hospital provided	
		Under 5	11	30	6									5	37	552	1	297								No. Hyde Hospital used	
		5 upwards	20	87				33						1	48		2	10								Yes	
		Under 5	14	4	7			4						2	129		7	19								Yes	
		5 upwards	2	18	2			39						13	74	2										Yes	
Other Urban Districts.			3	937	147	19		150						10	55	131	3	305	29							2	
Alderley Edge		Under 5	5 upwards																							340	
Alsager		Under 5	1																							Yes	
Altincham		5 upwards	14	1										2		1	9	20								Yes	
Ashton-upon-Mersey		Under 5	7																							Yes	
		5 upwards	18	3				3						2	6	32		7	2							Yes	
Higher Babbington		Under 5	10	5				2						5	22											No	
Lower Bebington		5 upwards	11	1										4												Yes	
Bollington		Under 5	25											1	13		5	1								Yes	
Bowdon		5 upwards	18	7				11						1	25		22								Yes		
Bredbury and Romiley—Bredbury	Romiley	Under 5	4											1	37		14									Ditto.	
		5 upwards	32	41	1			2						1	36		5									Yes	
		Under 5	2	3				4						6	55		5									No. Hyde Hospital used	
Bromborough		5 upwards	1																							Yes	
Buglawton		5 upwards	6																							No. Macclesfield Hospital used	
Cheadle and Gatley		Under 5	13																							Yes. Hospital at Arold	
		5 upwards	14																							Yes. Wirral Joint Hospitals	
Dakinfeld		Under 5	10	1	1									1	15		14									Yes	
Hollingworth		5 upwards	1	56	3	4		1						8	90	1										Yes	
Hoole		Under 5	1	1				23						1	3											No.	
Hoylake and West Kirby—Hoylake		Under 5	9	3				4						1	8											No. St Asaph Hospital used	
West Kirby		5 upwards	17	11				1						1	23		1	9							Yes. Hospital from Convalescent Hospital and Asylum		
Knutsford		Under 5	28					4						1	19		11								Yes. Hospital for School cases		
Lymm		Under 5	5 upwards	19				1						7	87		20								Yes. Hospital used		
Marple		Under 5	6					1						2	25											No. Hyde Hospital used	
Middlewich		5 upwards	10	1										6	7											Yes	
Mottman		Under 5	49		1			1						1	53											Yes	
Nantwich		Under 5	5 upwards	3				1						4	26											No. Chester Infirmary used	
Neston and Parkgate		Under 5	11	3	1									5	20											Yes. Wirral Joint Hospitals	
Northwich		5 upwards	8					6						1	3		2									No	
Northwich—Poulton-cum-Seacome		Under 5	2	65				5						1	15		4									Yes	
Runcorn		5 upwards	274	25	7	15	14							8	23	103	2									Yes. Old Engine House and Marquee provided for Small-pox	
Sale		Under 5	14	3										3	35	373										Yes	
Sandbach		5 upwards	27	11			6							2	9	55	1	5								Yes. Monsall Hospital used	
Tarporley		Under 5	1																						Yes		
Walmley		5 upwards	21	1				2						1	10										No		
Liscard		Under 5	24					35						11	29		7	1							Yes		
Wallasey		5 upwards	5	14	10	1	2	25						1	31		6		1	15					Yes		
Wilmslow		Under 5	2											8	94		17	4								Yes	
Winsford		5 upwards	1	2	1									2	7	2	1									Yes	
Tardeley-cum-Whalley		Under 5	31					1						3	47		7	1								No	
		5 upwards																							Yes		
		Under 5																							No		
		5 upwards																							No		
		Under 5																							No		
		5 upwards																							No		
		Under 5																							No		
		5 upwards																							No		
		Under 5																							No		
		5 upwards																							No		
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		Under 5																							No		
		5 upwards																							No		
		Under 5																							No		
		5 upwards																							No		
		Under 5																							No		
		5 upwards																									

These cases were notified as small-pox but are believed by the Medical Officer of Health to have been chicken-pox.

